MBU 400™

Administrator Guide
Release 1.0

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Important Safety Instructions

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. CAUTION

   Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions. Use only with Shenzhen Bak Technology Co., Ltd, BAK06-AS02-10128I 3.7V 650mAh Li-ion rechargeable battery pack.

SAVE THESE INSTRUCTIONS

Importantes mesures de sécurité

Certaines mesures de sécurité doivent être prises pendant l'utilisation de matérial téléphonique afin de réduire les risques d'incendie, de choc électrique et de blessures. En voici quelquesunes:

1. Ne pas utiliser l'appareil près de l'eau, p.ex., près d'une baignoire, d'un lavabo, d'un évier de cuisine, d'un bac à laver, dans un sous-sol humide ou près d'une piscine.
2. Éviter d'utiliser le téléphone (sauf s'il s'agit d'un appareil sans fil) pendant un orage électrique. Ceci peut présenter un risque de choc électrique causé par la foudre.
3. Ne pas utiliser l'appareil téléphonique pour signaler une fuite de gaz s'il est situé près de la fuite.
4. Utiliser seulement le cordon d'alimentation et le type de piles indiqués dans ce manuel. Ne pas jeter les piles dans le feu: elles peuvent exploser. Se conformer aux règlements pertinents quant à l'élimination des piles.
5. La socklet-sortie sera installée près de l'équipement et serafacilement accessible
6. ATTENTION

   Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant. (Shenzhen Bak Technology Co., Ltd, BAK06-AS02-10128I 3.7V 650mAh Li-ion rechargeable battery pack).

CONSERVER CES INSTRUCTIONS

Software License Agreement

Aastra Telecom Inc., hereinafter known as "Seller", grants to Customer a personal, worldwide, non-transferable, non-sublicenseable and non-exclusive, restricted use license to use Software in object form solely with the Equipment for which the Software was intended. This Product may integrate programs, licensed to Aastra by third party Suppliers, for distribution under the terms of this agreement. These programs are confidential and proprietary, and are protected as such by copyright law as unpublished works and by international treaties to the fullest extent under the applicable law of the jurisdiction of the Customer. In addition, these confidential and proprietary programs are works conforming to the requirements of Section 401 of title 17 of the United States Code. Customer shall not disclose to any third party such confidential and proprietary programs and information and shall not export licensed Software to any country except in accordance with United States Export laws and restrictions.

Customer agrees to not reverse engineer, decompile, disassemble or display Software furnished in object code form. Customer shall not modify, copy, reproduce, distribute, transcribe, translate or reduce to electronic medium or machine readable form or language, derive source code without the express written consent of the Seller and its Suppliers, or disseminate or otherwise disclose the Software to third parties. All Software furnished hereunder (whether or not part of firmware), including all copies thereof, are and shall remain the property of Seller and its Suppliers and are subject to the terms and conditions of this agreement. All rights reserved.

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FCC Information

Contact your System Administrator or Technical Support for any questions regarding your MBU 400. Have your serial number and MAC address ready when contacting support. You can locate the serial number and MAC address on the bottom of the MBU. For inquiries concerning telephony services, contact your Internet Telephony Service Provider. For inquiries concerning your broadband connection, contact your Internet Servic-e Provider (ISP), and for inquiries concerning on-screen information services, contact your information services provider.

For the EU: The telephone's conformity with EU directives is confirmed by the CE symbol. We hereby declare that the MBU and/or the Aastra 420d Handset are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

For the US: This equipment complies with Part 15 of the FCC rules and Part 68 of the FCC rules, and the requirements adopted by the Administrative Council for Terminal Attachments (ACTA). Located on the equipment is a label that contains, among other information, the FCC registration number, and the ringer equivalence number (REN). If requested, this information must be provided to the telephone company.

The REN is used to determine the number of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To ascertain the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment cannot be used on the telephone company-provided coin service. Connection to Party Line Service is subject to State Tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If such advance notice is not practicable, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe this is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice to enable you to make the necessary modifications in order to maintain uninterrupted service. If the trouble is causing harm to the telephone network, the telephone company may request you to disconnect the equipment from the network until the problem is resolved.

This equipment uses the following USOC jacks: RJ11C.

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local strikes of lightening and other electrical surges.

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US Service Center:

Aastra Telecom US - Service Center
900 Technology Park Drive
Billerica, MA, 01821, USA
Phone (978) 262-3200

For Industry Canada: "This product meets the applicable Industry Canada technical specifications."

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

‘’The Ringer Equivalence Number is an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.’’

Le présent materiel est conforme aux specifications techniques applicables d’Industrie Canada. L’indice d’équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d’une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d’indices d’équivalence de la sonnerie de tous les dispositifs n’excèdepas 5.

Consumer Information

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of this equipment is a label that contains, among other information, a product identifier in the format US:T7HIP06B8015. If requested, this number must be provided to the telephone company.

An applicable certification jacks Universal Service Order Codes (USOC) for the equipment is provided (i.e., RJ11C) in the packaging with each piece of approved terminal equipment.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. [For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:T7HIP06B8015. The digits represented by ## are the REN without a decimal point (e.g., 06 is a REN of 0.6). For earlier products, the REN is separately shown on the label.]

If this equipment MBU 400 causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

Should you experience trouble with this equipment, please contact: Aastra Telecom US – Service Centre, 900 Technology Part Drive, Billerica, MA, 01821, USA, Phone (978) 262-3200, for repair or warranty information. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Please follow instructions for repairing if any (e.g. battery replacement section); otherwise do not alternate or repair any parts of device except specified.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

NOTICE: If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this 1.9GHz DECT Product for VoIP and PSTN does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

This equipment is hearing aid compatible.

NOTICE: According to telephone company reports, AC electrical surges, typically resulting from lightning strikes, are very destructive to telephone equipment connected to AC power sources. To minimize damage from these types of surges, a surge arrestor is recommended.

Applicable for Coin or Pay Phone Only

To comply with state tariffs, the telephone company must be given notification prior to connection for customer-owned coin or credit card phone. In some states, the state public utility commission, public service commission or corporation commission must give prior approval of connection.

Safety Information

Important Safety Information

Charge the battery or handset only in combination with 420d Charger and the SALOM SSW-1444 adapter that comes with the product. Plug the SALOM SSW-1444 AC/DC adaptor in a wall outlet socket near the equipment for easy access/ removal of the AC/DC adaptor.

Important Battery Information

This product uses rechargeable Lithium-ion batteries 3.7V, 650mAh. Only use batteries that come with the handset or dedicated spare batteries marked with “Battery Pack 3.7V 650mAh Li-ion”. Do not use any other type, since this may present a risk of leakage, fire, explosion or other hazardous situation. For battery replacement or removal please remove the battery cover of the handset. Never disassemble, customize or short-circuit batteries. Do not place battery in fire or heat the battery. Charge the battery or handset only in combination with 420d Charger and the SALOM SSW-1444 adapter that comes with the product.

Sensitive Electronic Environment

Any radio-based equipment can potentially cause interference with other equipment and can be interfered from other equipment. This also applies for DECT equipment. However due to the very low transmission power level the chances for interference are very small. Research proves that operational DECT phones normally don’t influence electronic equipment however some precautions must be taken into account for sensitive electronic equipment e.g. sensitive laboratory equipment. When DECT phones operate in straight nearness of sensitive electronic equipment incidental influence can appear. You are advised not to place the DECT phone on or close (less than 10cm) to this kind of equipment, even in standby mode. Please also use the other documentation supplied with the various parts of your telephone system.

Product Disposal Information

For countries in the European Union

The symbol depicted here has been affixed to your product in order to inform you that electrical and electronic products should not be disposed of as municipal waste.

Electrical and electronic products including the cables, plugs and accessories should be disposed of separately in order to allow proper treatment, recovery and recycling. These products should be taken to a designated facility where the best available treatment, recovery and recycling techniques are available. Separate disposal has significant advantages: valuable materials can be re-used and it prevents the dispersion of unwanted substances into the municipal waste stream. This contributes to the protection of human health and the environment.

Please be informed that a fine may be imposed for illegal disposal of electrical and electronic products via the general municipal waste stream. In order to facilitate separate disposal and environmentally sound recycling, arrangements have been made for local collection and recycling. In case your electrical and electronic products need to be disposed of please refer to your supplier or the contractual agreements that your company has made upon acquisition of these products.

For countries outside the European Union

Disposal of electrical and electronic products in countries outside the European Union should be done in line with the local regulations. If no arrangement has been made with Aastra or your supplier, please contact the local authorities for further information.

Battery Disposal Information

Defect or exhausted batteries should never be disposed of as municipal waste. Return old batteries to the battery supplier, a licensed battery dealer or a designated collection facility. Do not incinerate batteries.

About This Guide

This Administrator Guide provides the information required to use and configure the MBU 400 on your business or home network. It includes advanced configuration instructions for features and functions of the MBU and the Aastra 420d Handset. This Administrator Guide is intended for the System Administrator only.

Documentation

The following documentation can be found on the Aastra Telecom website at www.aastratelecom.com:

- ***Aastra MBU 400 Installation Guide*** – Contains installation and set-up instructions, general features and functions of the MBU and Handset. This Installation Guide is included in the box with your MBU 400.
- ***Aastra MBU 400 User Guide*** – Describes the most commonly used features and functions for an end user Provides brief configuration information.
- ***Aastra MBU 400 Administrator Guide*** – Contains advanced Administrator information and procedures for setting up and using the MBU and Aastra 420d Handset. It also includes advanced configuration information. This Administrator Guide is intended for the System Administrator only.

Introduction

The MBU 400 consists of a Mobility Base Unit (MBU) and the Aastra Digital Enhanced Cordless Telephone handset (420d) that provide telephony service over the Internet and over the Public Service Telephone Network (PSTN) or landlines. You can install the MBU on a desktop or on a wall, while the 420d handset sits in its charging cradle on a desktop. You can register up to 8 handsets with the MBU. The MBU supports up to 3 SIP calls and 1 PSTN call simultaneously.

You can setup the MBU 400 in your business or home environment to act as a small hub with group calling, voicemail, individual SIP accounts, or SIP lines shared across a group. Once installed, the handset(s) can handle all calls for every line (IP calls and PSTN calls). You can configure your phone via transfer of a configuration file over TFTP or HTTP, a local web interface, or the handset user interface.

The MBU can be connected to the Internet (service provider required) via an Ethernet cable connected to the LAN port, and/or the PSTN via a regular telephone cable connected to the LINE (or landline) port. The LINE connection also allows for emergency calling and provides the handling of call overflow on the MBU.

Features

MBU Features

Call and Telephony Features

- VoIP calling (based on SIP 2.0 - RFC3261)
- (optional) Landline calling over Public Service Telephone Network (PSTN)
- Up to 8 paired handsets, one line per handset (MBU supports up to 3 SIP calls and 1 PSTN call simultaneously)
- VoIP DTMF digit support (inband, SIP Info, RFC2833)
- Voicemail support (indicators for receiving and handling of voicemail, and call-to-voicemail server)

Other MBU Features

- System Administrator Web Interface Support (in English only)
- SIP accounts configured via WebUI, TFTP, or from the handset.
- Quality of Service
- Type of Service (ToS)
- CODECs
- Pulse Code Modulation A-law (PCMA) (G.711, 64 kbps)
- Pulse Code Modulation u-law (PCMU) (G.711, 64 kbps)
- iLBC (20 ms)
- G.729
- Maintenance, administration, and provisioning
- Digital Enhanced Cordless Telephone (DECT) interface
- Firmware updates via:
  - Over-the-air programming
  - File transfer of a configuration file over TFTP or HTTP, local Web interface, or the handset user interface (System Administrator PIN required)
- Provisioning allowed via a configuration file, Web interface, or the handset user interface*
- Debug and SIP trace report ability (via Web interface)

  * The configuration file provisioning allows full access to all configuration parameters. The local Web interface allows access to only a limited set of configuration settings. The handset user interface enables access to some VoIP account settings (access is controlled by a System Administrator pincode).

Aastra 420d Handset Features

Display

- 128 x 128 pixels, 65K color support, backlight
- Graphical menu system

Call and Telephony Features

- 12 numerical keys, 5 navigation keys, 2 function keys
- Auto answer (when handset is lifted from the charger)
- Key lock option
- Call forward - all, busy, no answer
- Call timer
- Call transfer and call hold (for internal calls)
- Call waiting indication
- Caller ID with name from phone book
- Distinctive ringing
- Call log of incoming/outgoing/missed calls
- Call return (from call log)
- Customizable phone settings
- Intercom (handset to handset through MBU)
- Contact List (up to 200 entries and up to 4 numbers per entry)
- Voicemail message support
- Speed dial support
- Three-way conferencing (2 handsets)
- Call hang up (upon return to charging cradle)
- On-hook dialing (pre-dial numbers before pressing off-hook button)

Audio Features

- Mute (disable microphone)
- Receiver volume control
- Ring tone melodies
- Ringer volume control
- Key sounds (click, DTMF, and special tones)
- Low battery and out-of-range audible warnings
- Speakerphone
- Headset jack (2.5 mm)

Other Handset Features

- Separate charging station for handset
- Hearing aid compatible
- Multi-language support (Danish, German, English, Spanish, French, Italian, Dutch, Portuguese, Finnish)
- Li-Ion battery pack
- Automatic or fixed registration of handset to MBU
- Status indicators in idle mode (signal, battery level, date and time)
- Message waiting indicator (missed calls, voicemail)
- Vibrator mode on handset

Requirements

Before using the MBU 400 on your network, the following may be required depending on your network connection:

- Broadband Internet connection – cable, DSL, or equivalent
- Internet Telephony Service Provider subscription – to make voice calls over your Internet connection
- Analog telephone line subscription – to make ordinary phone calls (and emergency calls) over the LINE port on the MBU (optional)
- In addition, before you start the installation process, the following may be required:
  - (optional) Wired Ethernet router or broadband modem for network and IP connections
  - (required) Power outlets for the MBU and the handset charger
  - (optional) Telephone wall outlet used for landline telephony

Getting Started

This section describes the first steps in configuring the administrator settings on your MBU 400 system.

Administrator configuration settings are accessed through three interfaces.

- The handset `VoIP Settings` and `Internet Settings` menus provide limited configuration access. See the ***Aastra MBU 400 User Guide*** for more information on the handset interface.
- The Web UI provides access to most configuration settings. Continue reading this section for instructions on finding your IP address and accessing the Web UI, and see Using the Web UI on page 24 for further details.
- File transfer of a configuration file provides additional configuration settings, as well as those found in the WEB UI. See Using Configuration Files on page 39 for details.

Installation and Setup

Please refer to the ***Aastra MBU 400 Installation Guide*** for basic installation and physical setup.

Finding the MBU 400 IP Address

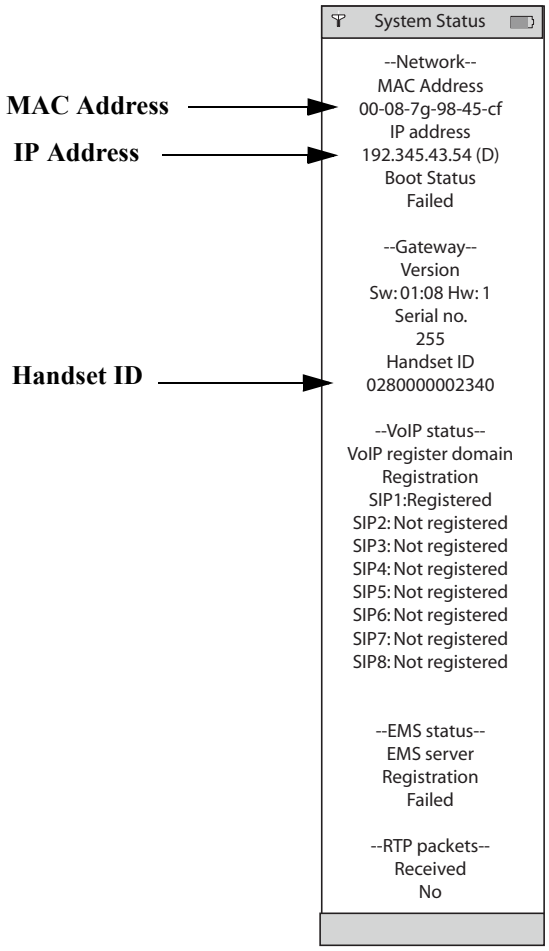
You can view the MBU IP address and status information from the 420d handset screen.

To view the IP address and status of the MBU, do the following.

1. After pairing the handset to the MBU, press the + volume button on the side of the handset.

   The message "`Connecting... Please wait`" appears on the handset, followed shortly by the MBU status screen.

2. Scroll down to see the IP address and other status information about the MBU.



The Handset ID (indicated above) is also called the IPEI (International Portable Identity), and can be viewed through the handset menu using `Settings>System settings>Handset settings>Handset ID`. The IPEI is used to link a specific handset to a specific account in the event you have multiple handsets on your MBU 400 system. See Customizing Your SIP Accounts on page 34 for details.

3. Press the red key CLR to exit.

Note: If the MBU did not download a configuration file or did not receive an IP address using DHCP, a Boot Status of "Failed" appears on the System Status page. If your MBU 400 system is not using configuration files, for example, the Boot Status may read "Failed" under normal operation.

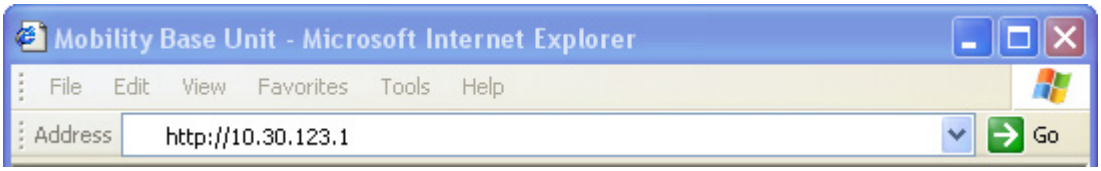
Accessing the MBU Web Interface

You can access the MBU 400 Web User Interface using your web browser and the IP address of the MBU 400.

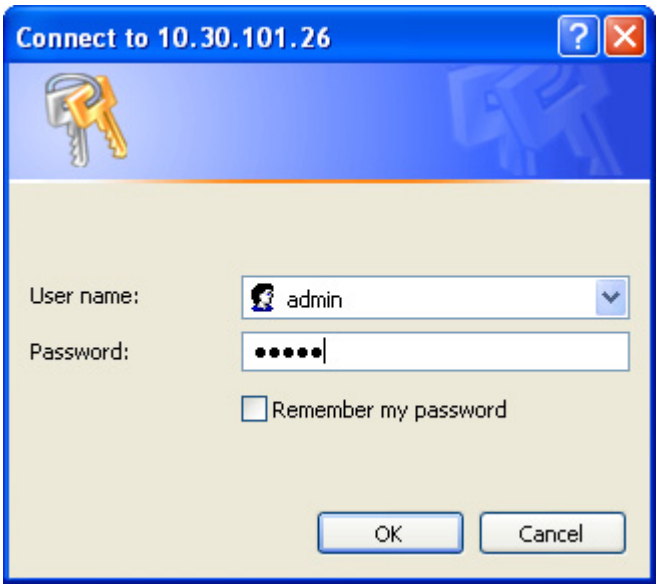
To open the Aastra Web UI for your MBU 400 system do the following.

1. Open your web browser and enter the MBU's IP address (in dotted decimal format) into the address field, then press Enter.

   For example, an address of http://10.30.123.1 opens the following page.



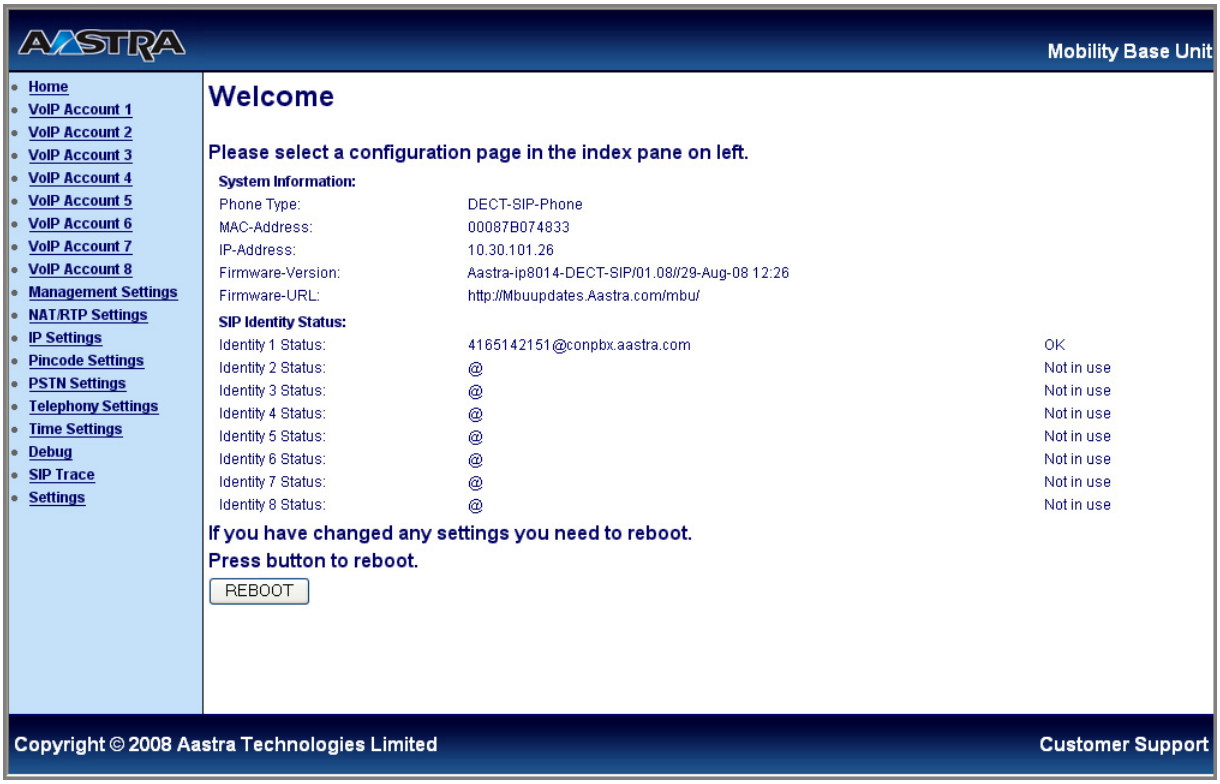
The Login window displays.



2. Enter your user name and password and click OK.

   *Note: For an administrator, the default user name is "**admin**" and the password is "**22222**".*

The MBU 400 Welcome screen displays, showing a summary of your system and account information.



3. To logout at any time, close the browser window.

Web UI Menu

Administrator configuration options can be accessed using the Aastra Web UI. The exact menu appearing in the Web UI can be set through the configuration files, and may differ from the default menu described here.

The following categories appear in the side menu of the MBU Web UI by default.

Menu Item	Description
Home	Current firmware version and firmware URL.
VOIP Account 1 through 8	SIP account information (accounts #1 to #8). See Registering Your SIP Accounts on page 24.
Management Settings	Configuration address and firmware upgrade address. See Setting Configuration and Upgrade Paths on page 26.
NAT/RTP Settings	NAT configuration (for address translation) and RTP configuration (for VoIP). See Changing NAT/RTP Settings on page 29.
IP Settings	IP configuration settings. See Configuring IP Settings on page 29.
Pincode Settings	Handset password and gateway access code settings. See Setting Security Options on page 30.
PSTN Settings	PSTN configuration. See Changing PSTN Settings on page 33.

Menu Item	Description (Continued)
Telephony Settings	Destination of incoming calls and display name for each handset. See Customizing Your SIP Accounts on page 34.
Time Settings	Current time and date configuration. See Changing Time Settings on page 36.
Debug	Debug trees for advanced troubleshooting.
SIP Trace	Details of SIP protocol messages sent and received by the MBU 400 system.
Settings	Configuration file (details of configuration parameters). See Viewing the Active Configuration File on page 39.

Factory defaulting the MBU

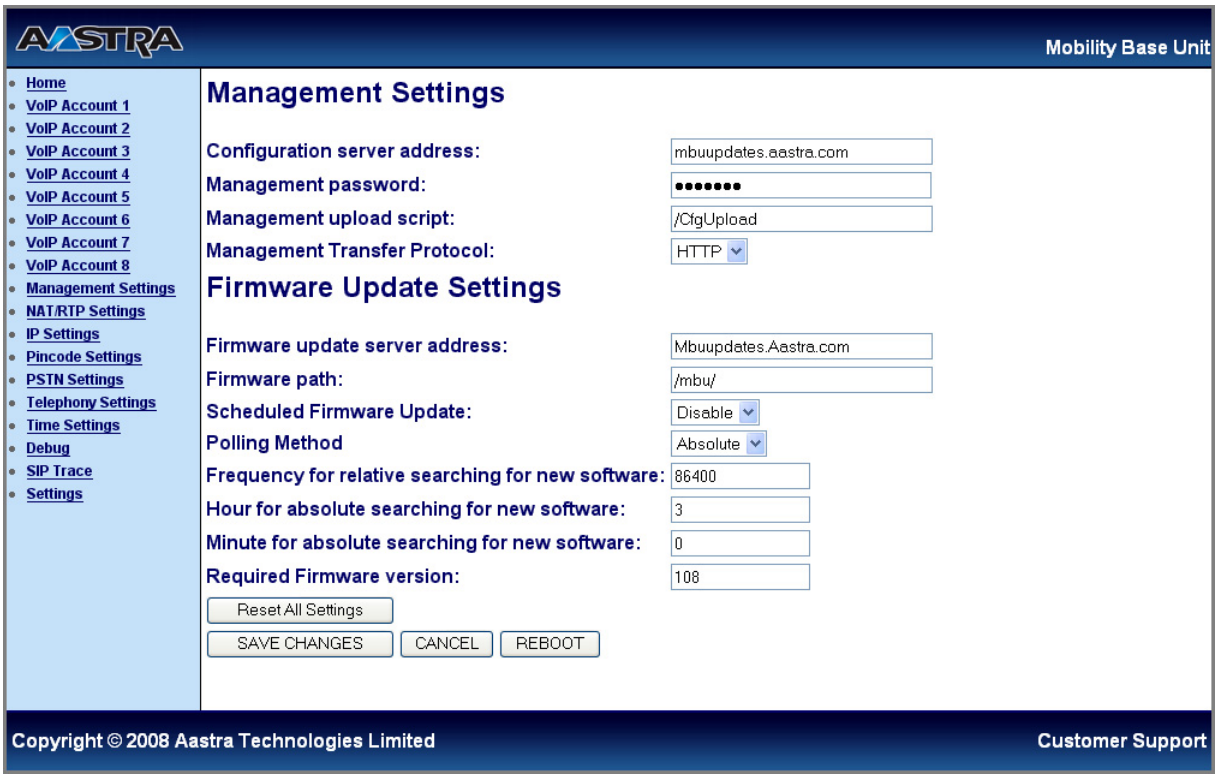
Factory defaulting the MBU 400 will return all settings to the initial state. All account settings will be lost and need to be re-entered before VoIP calls can be made. A factory default reboot can be done from the Web UI, a handset, or the MBU 400 base unit (using the **RESET** button).

Factory Defaulting from the Web UI

If you want to return to the factory default settings do the following.

1. In the MBU Web User Interface, click **Management Settings** on the left menu.

   The Management Settings page opens.



2. Click Reset All Settings to return all settings to the default values.

   All settings on this page are reset to default values. The MBU 400 then saves the settings and resets automatically.

   Note: All account settings will be lost and need to be re-entered before VoIP calls can be made. The handset access codes will not be reset, and need to be changed to match the default gateway access code of ***"0000"****.*

Factory Defaulting from the Base Unit

- Factory default the MBU by holding the **RESET** switch for about 15 seconds (until all the LEDs comes on) then releasing the switch.

After factory defaulting the MBU, handsets may need to be re-registered. See the ***Aastra MBU 400 User Guide*** for further handset registration information.

Factory Default Access Codes

A factory default reset will change the access code on the gateway to "***0000***" but the handset access codes will not change. You must manually reset the handset activation code on each handset to "***0000***" using `Settings>System Settings>Access Code>Handset.` See the ***Aastra MBU 400 User Guide*** for further handset information.

Factory Default Web Username and Password

A factory default reset will change the WEB UI username and password back to the original settings of "***admin***" and "***22222***", unless changed by a subsequent configuration file transfer.

Using the Web UI

Administrator configuration settings can be accessed through the Aastra Web UI using a web browser and the IP address of your Aastra MBU 400 system. For more information on finding the Aastra MBU 400 IP address and opening the Aastra Web UI see Getting Started on page 18.

Some administrator settings can be reached through the MBU 400 handset using the handset menus. For more information see the ***Aastra MBU 400 User Guide***. All administrator configuration settings can be changed using configuration files, including some advanced administrator settings. For more information see Using Configuration Files on page 39.

Registering VoIP Account Settings

Before making internet calls on the Aastra MBU 400 system, you need to register your internet telephony account information with the MBU 400. Have the account details provided by your Internet Telephony Service Provider handy as you will need to enter them in the MBU 400 Web UI.

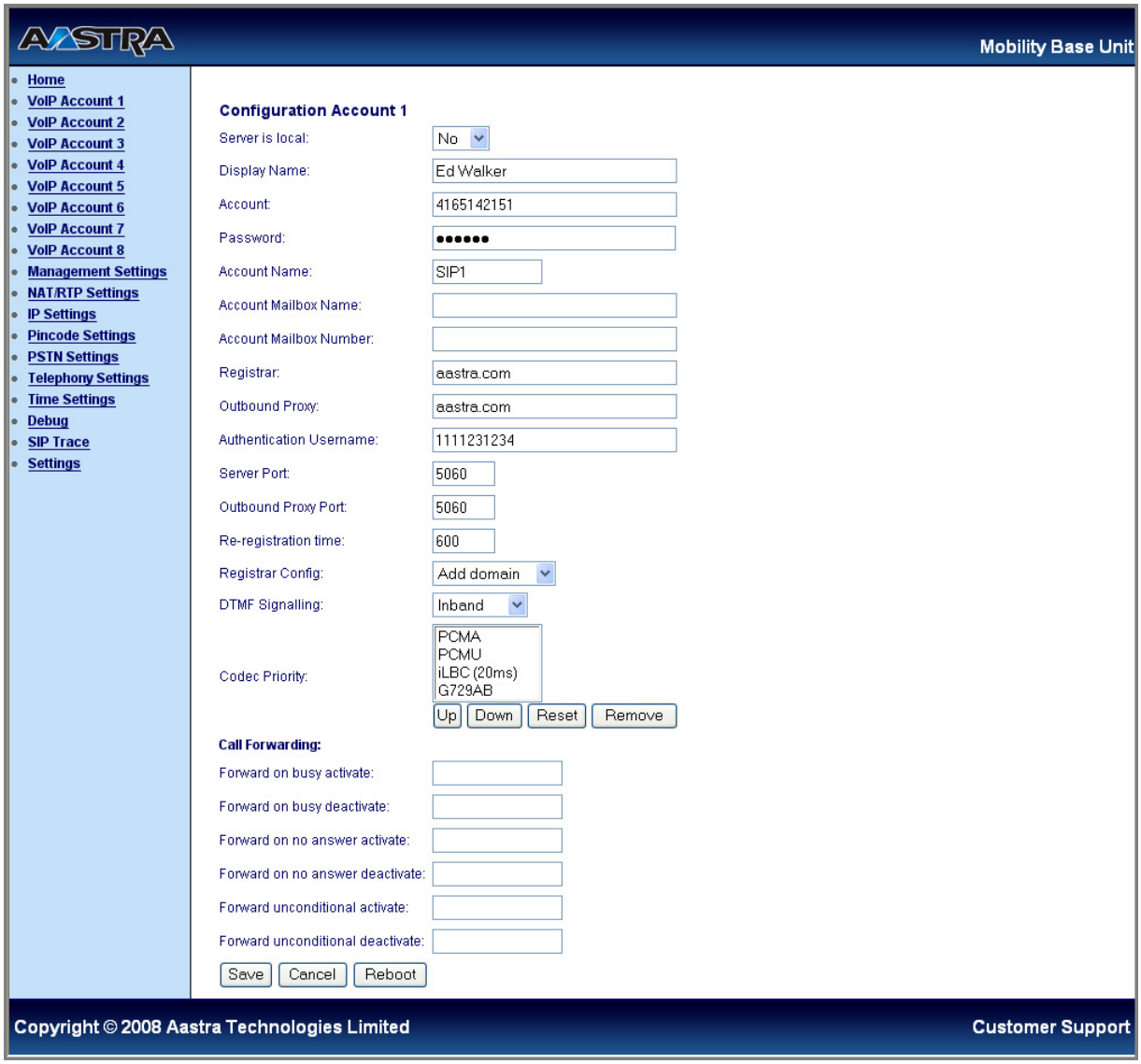
Registering Your SIP Accounts

Each SIP account provides an additional internet telephone line for incoming and outgoing calls. Each handset connected to the MBU 400 can send and receive calls from your choice of SIP lines.

To register an SIP account with the MBU 400 do the following.

1. In the MBU Web User Interface, click **VoIP Account 1** (or VoIP Account 2 for the second SIP account, and so on).

   The VoIP page opens.



2. Fill in the following parameters, including the account information provided by your telephony service provider.

Field	Description
Server is Local	Allows you to select a local or remote sever. An external sevice provider VoIP account indicates a remote server in most cases. Default setting is **No**.
Display Name	For reference purposes only. This name will not appear on the handset display. (Set the handset display name in the Telephony Settings page; See Customizing Your SIP Accounts on page 34 for details.)
Account	SIP username/phone number
Password	SIP authentication password

Field (Continued)	Description (Continued)
Registrar	SIP registrar/proxy address
Outbound Proxy	SIP outbound proxy or SBC address
Authentication Username	SIP authentication username
Server Port	SIP registrar/proxy port
Outbound Proxy Port	SIP outbound proxy port or SBC port
Re-registration Time	SIP registration period

3. Click Save to save the configuration.

4. Click REBOOT to reset the MBU 400 so the new settings take effect.

Changing Management Settings

The Management settings page includes the addresses the MBU 400 uses for configuration file transfers and firmware upgrades.

Setting Configuration and Upgrade Paths

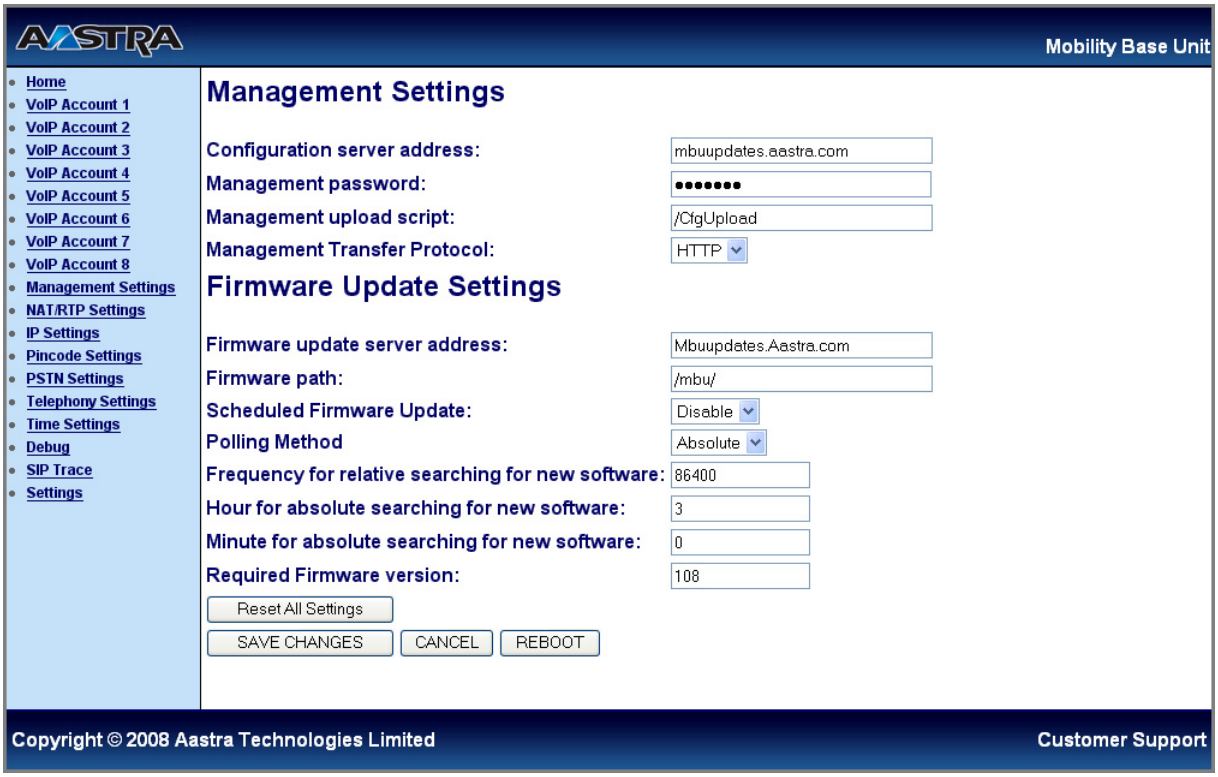
The MBU 400 system is initially set to check Aastra Telecom servers for updates and configuration files.

Field	Description
Configuration server address	Server providing the configuration file to the Aastra MBU 400. Default value is **mbuupdates.aastra.com**.
Management password	Password required to access the configuration file server. Default value allows access to the mbuupdates.aastra.com server, and may be restored using the reset all settings button on the Management Settings page.
Management upload script	The directory path leading to the configuration file on the configuration server. Default value is /**CfgUpload**.
Management Tranfer Protocol	The protocol used for firmware and configuration file downloads. Valid values are HTTP and TFTP. Default value is **HTTP**.

If you want to return to the default settings for configuration and upgrade paths without factory defaulting the MBU 400 do the following.

1. In the MBU Web User Interface, click **Management Settings** on the left menu.

   The Management Settings page opens.



2. Click Reset All Settings to return all settings to the default values.

   All settings on this page are reset to default values. The MBU 400 saves the settings and resets automatically.

   Note: The MBU 400 waits until active calls are completed before resetting for minimal disruption.

Upgrading Firmware

Through the Management Settings page in the Web UI, you can set where and how often the MBU 400 checks for firmware updates, the minimum required firmware version, and enable automated updates if desired.

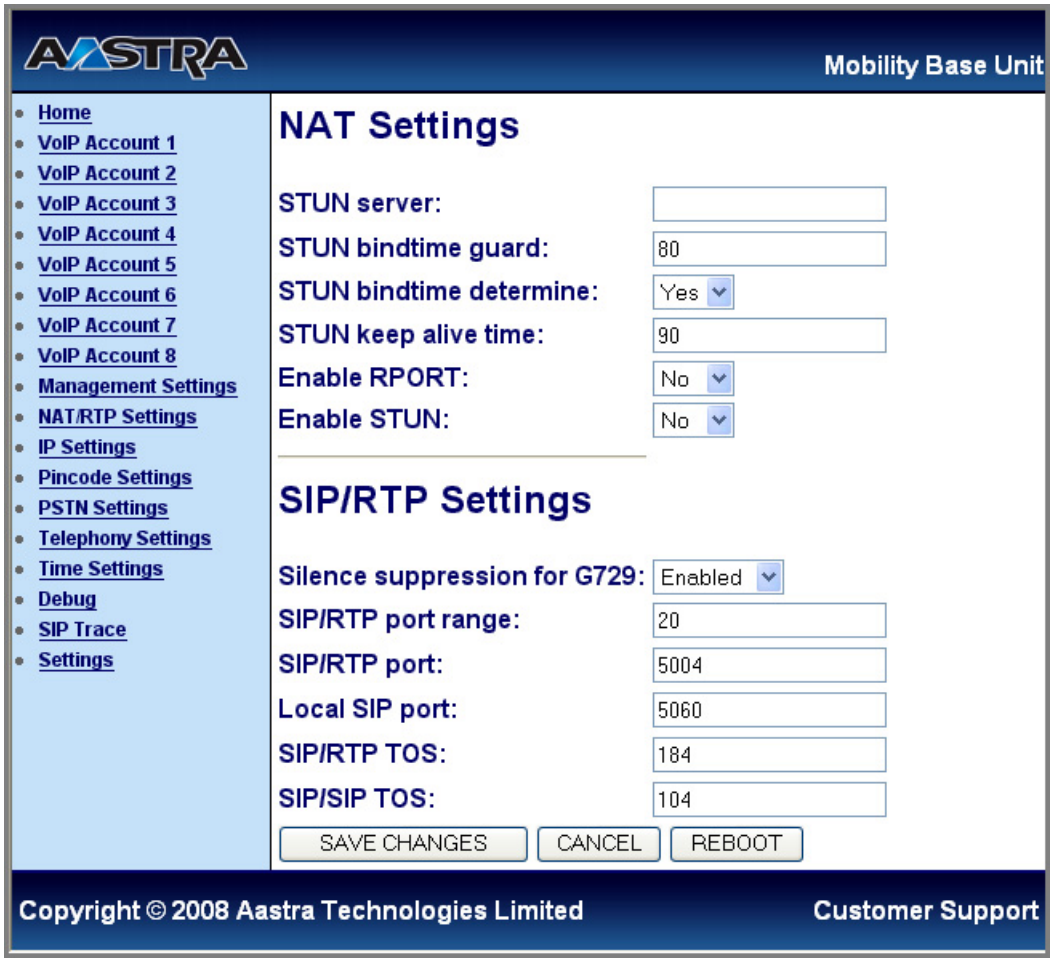
During a firmware update you cannot make or receive calls, including emergency calls, on your phones. As updates can take several minutes per handset it is recommended that you schedule updates to occur outside of office hours.

The following firmware settings are available on the Management Settings page, and can be changed by entering new values or selecting from the drop-down menus.

Field	Description
Firmware update server address	The IP address or domain name of the server containing firmware update files. Default value is **Mbuupdates.Aastra.com**.
Firmware path	The firmware update server path in which to look for firmware update files. Must start with a slash (/). Default value is **/mbu/**
Scheduled Firmware Update	Turns on and off the scheduled firmware update. Default value is **Disabled**.
Polling method	Selects between **Absolute** (checking for firmware at a set time) and **Relative** (checking for firmware when a set time has elapsed since the last boot). Default value is **Absolute**.
Frequency for relative searching for new software	Time in seconds after boot to complete a firmware check when **Relative** polling is selected. Default is **86400**.
Hour for absolute searching for new software	Hour to check for firmware updates (using a 24 hour clock) when **Absolute** polling is selected. Default value is **03**.
Minute for absolute searching for new software	Minute to check for firmware updates (using a 24 hour clock) when **Absolute** polling is selected. Default value is **00**.
Required firmware version	Minimum firmware version. Default setting is the current firmware version.

Changing NAT/RTP Settings

For details of the advanced administrator configuration settings available through the NAT/RTP page in the Aastra Web UI, see STUN, RPORT, SIP port settings on page 45 in the configuration files chapter.



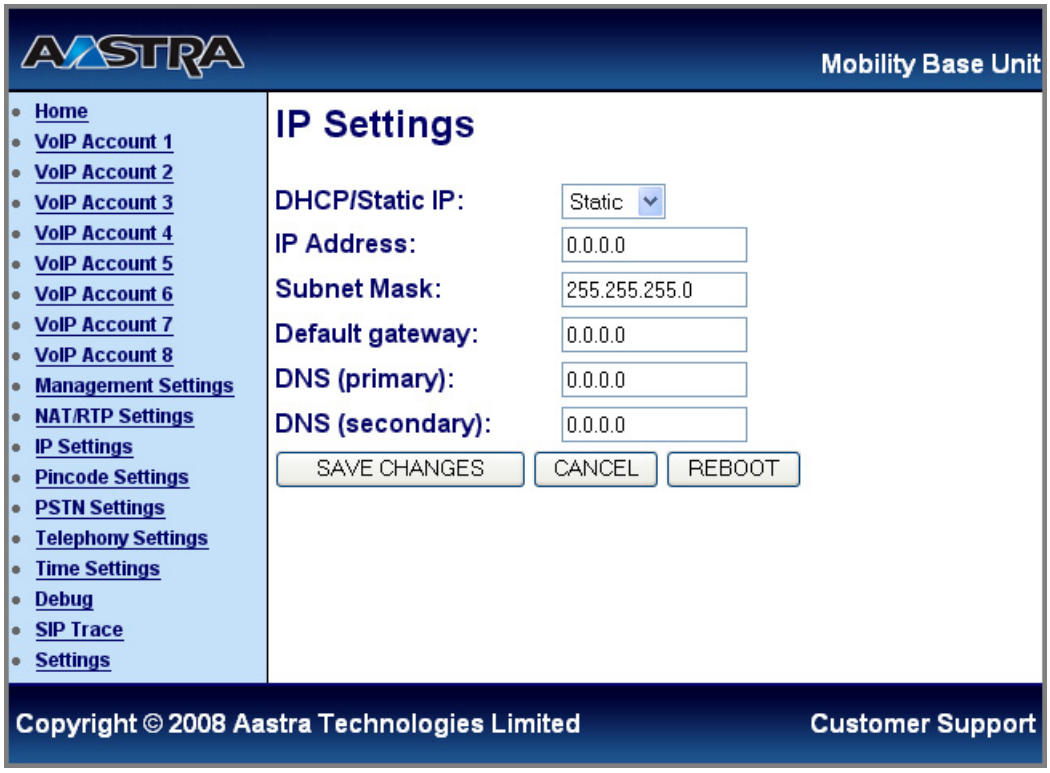
Configuring IP Settings

The Aastra MBU 400 gateway can be configured to obtain its IP address via DHCP or to use a static IP address. The default setting is for DHCP.

To change the IP setting of your MBU 400 do the following.

1. In the MBU Web UI, open the IP Settings page (click **IP Settings** on the side menu).

   The IP Settings page opens.



2. Select DHCP or Static in the drop-down menu.
3. If you have selected Static, enter IP addresses or domain names in the appropriate fields.
4. Click SAVE CHANGES to save your new IP settings.
5. Click REBOOT to reset the MBU and apply the new settings.

Setting Security Options

Passwords protect both the MBU 400 Web access and the VoIP settings menus on the handset (when activated). In addition the handsets and gateway have an access code which can be set to ensure only handsets with the correct code connect to the system. Using the access code is helpful in environments with multiple gateways, as handsets won't accidentally register to the wrong system.

All security settings are accessed through the MBU 400 Web interface.

To open the security settings page, do the following.

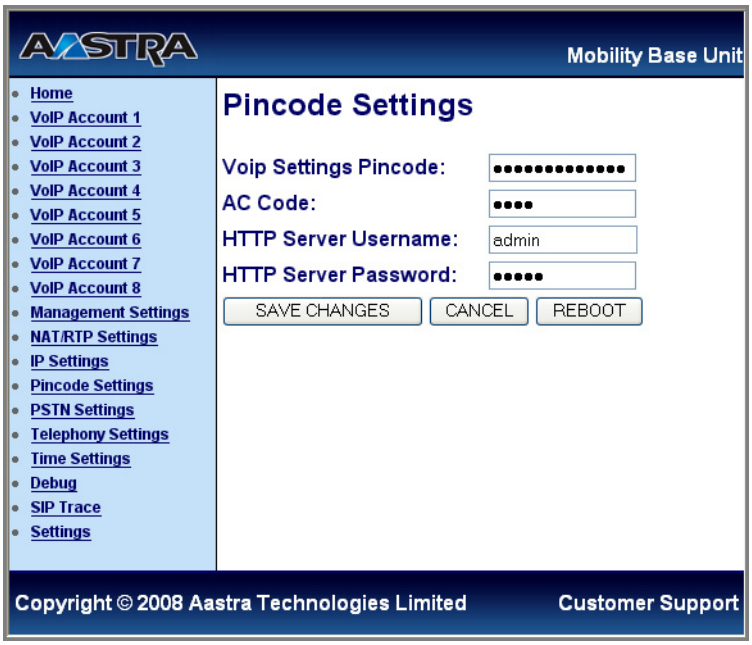
1. Logon to the Web UI using the MBU 400 IP address.

   (See Accessing the MBU Web Interface on page 19 for more details.)

   *Note: For an administrator, the default user name is "**admin**" and the password is "**22222**".*

2. Click **Pincode Settings** on the left menu.

   The pincode settings window opens.



Setting a PIN code

Within the Pincode Settings window of the MBU 400 Web UI, you have the option of changing the VoIP pincode. This 4-digit number corresponds to the PIN code found in the 420d handset `Settings>VoIP Settings` menu.

If your system has an active pincode, several handset menus will require you to enter the correct pincode before allowing access. The default pincode used by Aastra Telecom is "***2222***". Any of the following handset menus may require a pincode, depending on the configuration file settings.

- `VoIP settings`
- `Internet settings`
- `System settings`
- `Telephony Settings>VoIP line`
- `Telephony Settings>Call groups`

Changing the pincode

The pincode required for various handset menus can be changed using the handset or Web UI. To change the pincode using the handset, you first need to enter the current pincode. See the ***Aastra MBU 400 User Guide*** for details.

To change the pincode through the Web UI do the following.

1. Open the **Pincode Settings** window in the Web UI.

   *Note: For an administrator, the default Web UI user name is "**admin**" and the password is "**22222**".*

2. Enter a 4-digit number in the **Voip Settings Pincode** field.

   Record your Pincode number here for reference:

3. Click SAVE CHANGES to save the new pincode.

4. Click REBOOT to reset the MBU 400 and apply the new pincode to the system.

Activating the pincode

The pincode can only be activated or deactivated through the configuration file. See Protecting Handset Menus on page 52 for details.

Setting an Access Code

Setting an access code on your gateway ensures only handsets with the same access code are able to connect to the gateway. The access code can be set through the handset (see the ***Aastra MBU 400 User Guide*** for details) or through the Web UI.

Note: *If a handset is trying to register unsuccessfully, it may have the wrong access code. Change the handset access code to match the gateway access code, and reset the MBU to initialize handset registration mode.*

Note: *A Factory default reset will change the gateway access code to* ***"0000"*** *but will not change the handset access code.*

To set the MBU 400 access code using the Web UI do the following.

1. Open the **Pincode Settings** window in the Web UI.

   *Note: For an administrator, the default Web UI user name is "**admin**" and the password is "**22222**".*

2. Enter a 4-digit number in the **AC Code** field.

   Record your access code number here for reference:

3. Click SAVE CHANGES to save the new access code.

4. Click REBOOT to reset the MBU 400 and apply the new access code to the system.

5. Change the access code on each handset using `Settings>System Settings>Access Code>Handset`.

Note: *Changing the AC Code (access code on the Web UI) will not change the access code on handsets. Handset access codes must be changed individually.*

Changing the Web Username and Password

The username and password you use to logon to the MBU 400 Web UI are set to default values by Aastra Telecom. These can be changed to a username and password of your choice using the Web UI.

To change the username and password for the MBU 400 Web UI do the following.

1. Open the **Pincode Settings** window in the Web UI.

   *Note: For an administrator, the default Web UI user name is "**admin**" and the password is "**22222**".*

2. In the **HTTP Server Username** field, enter a new username.

3. In the **HTTP Server Password** field, enter a new password.

   Record your username and password here for reference:

4. Click SAVE CHANGES to save the new username and password.

5. Click REBOOT to reset the MBU 400 and apply the new username and password.

   Use the new username and password the next time you logon to the Web UI.

Changing PSTN Settings

Using the PSTN Settings page in the Aastra Web UI, the landline can be disabled. In this instance incoming calls on the landline (if one is connected to the MBU 400) are ignored, and references to the landline are removed from the handset UI.

Note: *The administrator must remove the landline from all handset call groups and make sure that the emergency line is set to a VoIP line in order to remove all references to the landline from the handset menus*

The country selection is also made through the PSTN settings page, as indicated in the following table.

Field	Description
Enable PSTN	Turns on and off access to the Aastr MBU 400 landline, whether or not a landline is connected to the MBU. Default is **Enable**.
Country Selection	Configures the MBU for compatibility with country specific PSTN settings. Valid values are: Australia Belgique Danmark Deutschland Eastern European Ellás España France Ireland Italia Nederland Norge Portugal Schweiz Suomi Sverige Turkiye United Kingdom US (**default value**) Österreich

To change the PSTN settings for your Aastra MBU 400 system do the following.

1. In the MBU Web UI, open the PSTN Settings page (click **PSTN Settings** on the side menu).

   The PSTN Settings page opens.

2. Change the PSTN settings as required.

   (See the proceeding table for details of the PSTN fields.)

3. Click SAVE CHANGES to save the new settings.

4. Click REBOOT to reset the MBU 400 and apply the settings to the system.

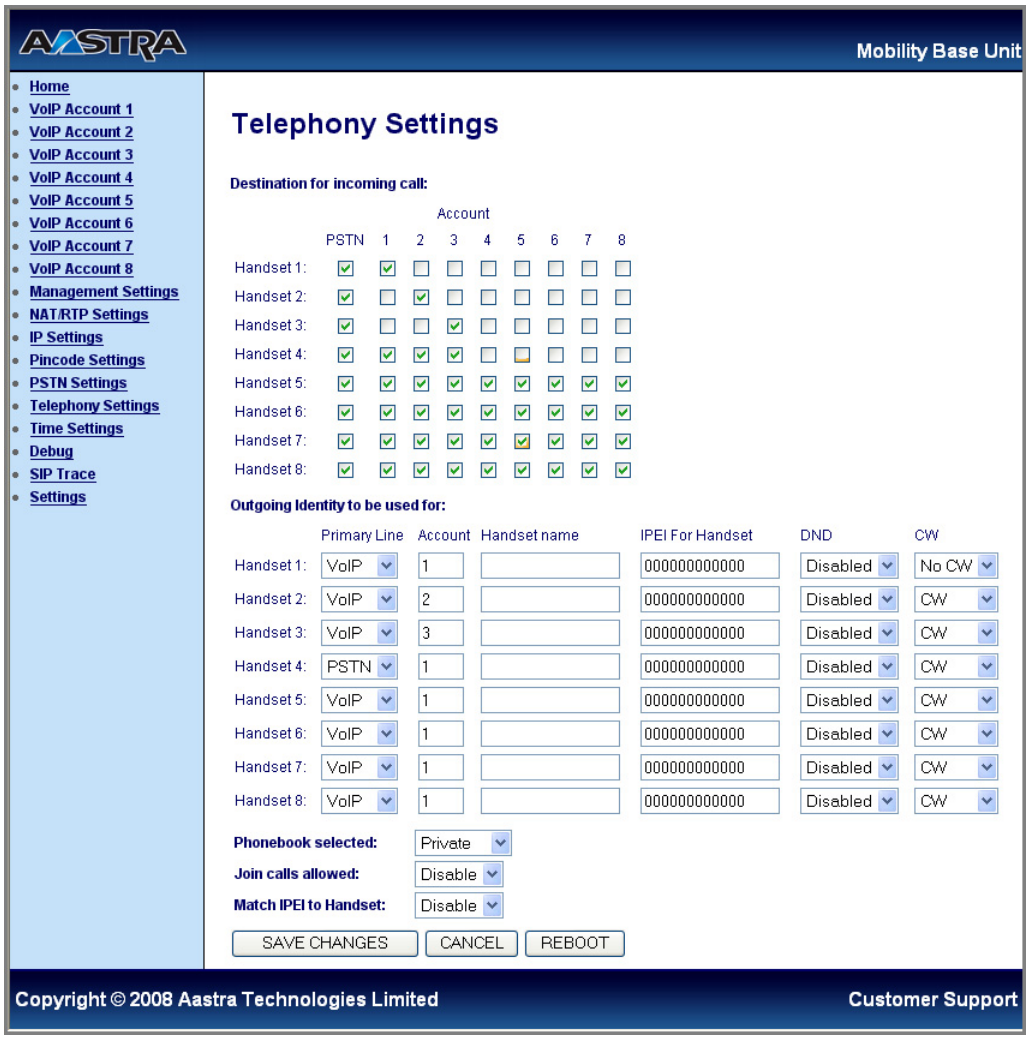
Customizing Your SIP Accounts

The Telephony Settings page in the Aastra Web UI allows you to change SIP account settings for all handsets registered with your MBU 400 base unit. Account use by handsets can be set, as can the handset names and choice of private or shared phonebook.

To customize the account settings for MBU 400 handsets do the following.

1. In the MBU Web UI, open the Telephony Settings page (click **Telephony Settings** on the side menu).

   The Telephony Settings page opens.



2. In the **Destination for incoming call** section, check the handset or handsets you want to ring when a call comes in on each account. The default setting has all incoming calls ring on all handsets.

   For example, checking PSTN only for handsets 2 and 3 will result in all incoming landline (PSTN) calls ringing handset 2 and handset 3. Other handsets will not be able to answer landline calls.

3. In the **Outgoing identity to be used for** section:

   • Select the **Primary Line** to use for outgoing calls for each handset in the drop-down menu.

   — Choose VoIP for internet calls, or PSTN for landline calls.

— If you have selected VoIP calls, choose the number of the registered SIP account to use when dialing out.

- Fill the parameter **Handset name** with the name and number you want displayed on the 420d screen. If nothing is entered, the default "Handset 1" for account 1, "Handset 2" for account 2, and so on will be used.
- Enable the **Match IPEI to Handset** parameter to activate IPEI matching and fill in the **IPEI For Handset** for each handset.

Note: The handset IPEI is the Handset ID number displayed on the handset status page when you press the + (volume up) button, or viewed through the handset menu using `Settings>System settings>Handset settings>Handset ID`. *See* *Finding the MBU 400 IP Address on page 18* *for details.*

IPEI matching ensures that Handset 2 will always register as Handset 2, for example, even if no Handset 1 is registered. If the IPEI is not matched, handsets will register in first-come first-served order, and removing one handset may cause others to re-register under different names.

4. In the **Phonebook Selected** section, choose between Private or Shared.

   A shared phonebook results in the same Call Log and Contacts List appearing on all handsets. A private phonebook results in individual Call Logs and Contacts Lists for each handset.

5. Enable or Disable **Join Calls** as desired.

   Using the Join Calls feature allows any handset to connect to a call in progress on another handset registered to the same MBU 400.

6. Click SAVE CHANGES to save your new configuration settings.
7. Click REBOOT to reset the MBU and apply the new settings.
8. Click **Home** on the left menu to open the Welcome page showing system status and account information.
9. Confirm that the displayed `Identity 1 Status` is "`OK`". (For VoIP Account 2, check Identity Status 2, and so on.)
10. Press the + (volume up) key on the side of a registered 420d handset. Scroll down with the navigation key to the VoIP status. "`SIP1`" (or SIP2, and so on) should display "`Registered`".
11. In the handset menu, select `Settings>Telephony Settings>VoIP Line` to check the allocated SIP account: SIP1, SIP2, … or SIP8.

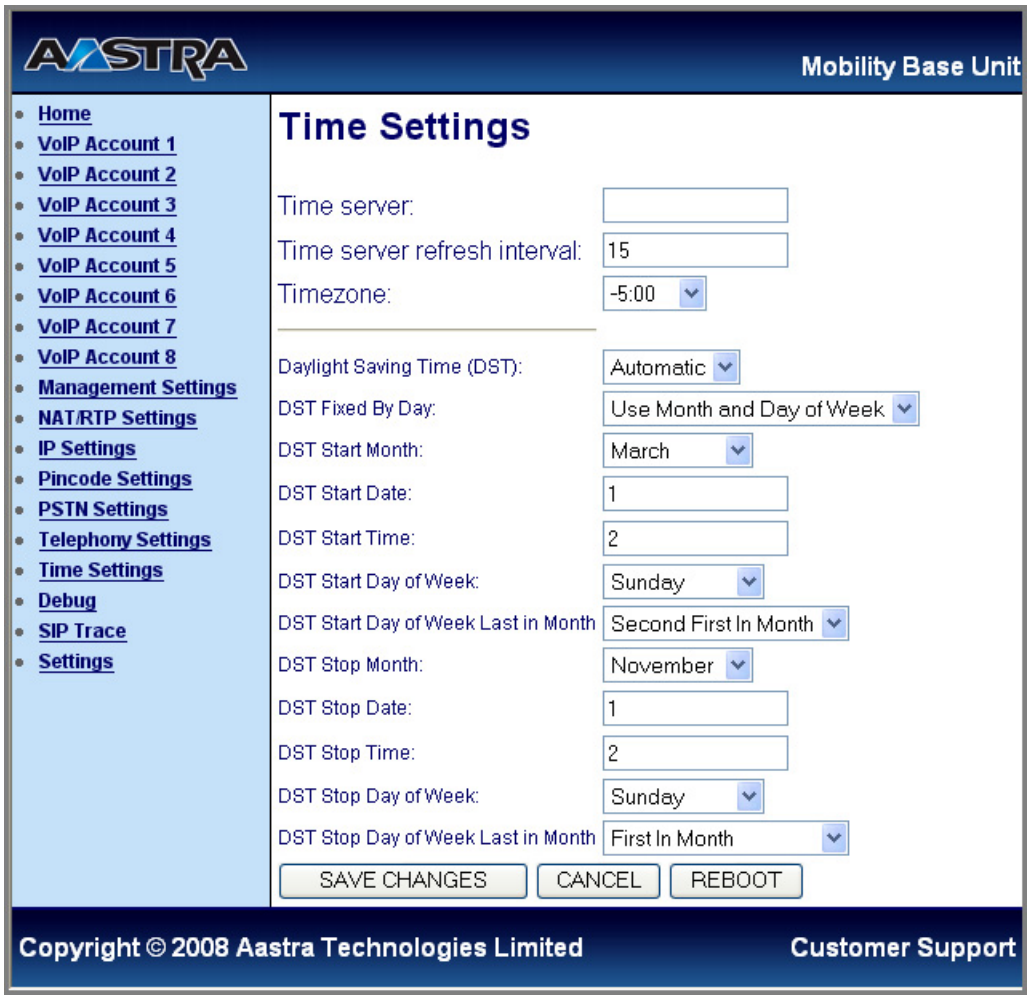
Changing Time Settings

The time settings configuration options allow the Aastra MBU 400 system time to be set by an external time server, with a set refresh rate and local timezone. Daylight savings time options allow you to set automatic annual time changes, or turn daylight savings time on and off manually.

To change the time settings for MBU 400 handsets do the following.

1. In the MBU Web UI, open the Time Settings menu (click **Time Settings** on the side menu).

   The Time Settings page opens.



2. In the **Time Server** field, enter the IP address or domain name of a time server.
3. In the **Time server refresh interval** field enter the length of time in seconds between time server refreshes.
4. In the **Timezone** field, enter your local timezone in GMT format.

   The following table lists some common time zones.

Time Zone	Location
GMT+10	Australian Eastern Standard Time (AEST) *Sydney*
GMT+9:30	Australia Central Standard Time (ACST) *Darwin; Adelaide*
GMT+9	Japan Standard Time (JST) *Tokyo*

Time Zone	Location (Continued)
GMT+8	Australian Western Standard Time (AWST) China Coast Time (CCT) *Perth; Beijing*
GMT+3	Bagdad Time (BT) *Moscow*
GMT+2	Eastern European Time (EET) *Cairo*
GMT+1	Central European Time (CET) *Paris; Stockholm; Vienna*
GMT	Greenwich Mean Time (GMT) *London*
GMT-4	Atlantic Standard Time (AST)
GMT-5	Eastern Standard Time (EST) *New York; Washington DC; Ottawa; Toronto*
GMT-6	Central Standard Time (CST) *Mexico City*
GMT-7	Mountain Standard Time (MST) *Denver; Phoenix*
GMT-8	Pacific Standard Time (PST) *Los Angeles; Vancouver*

5. Choose between Enable, Disable, and Automatic in the **Daylight Savings Time (DST)** drop-down menu.

   Enable and Disable turn DST on and off manually. If you choose Automatic, enter the start and stop dates (or days of week) along with the months and times. The default values are for North American DST.

6. Click SAVE CHANGES to save your new time settings.

7. Click REBOOT to reset the MBU and apply the new settings.

Using Configuration Files

This chapter describes the configuration options available when using configuration file transfers to setup the MBU 400 system. By customizing configuration files you can configure all parameters accessed through the MBU handset menus and the Aastra Web UI, as well as some advanced features such as PIN code security activation for handset menus.

Note: *When the gateway is reset, it attempts to reload a configuration file. Any settings made on the phone or through the web user interface are overwritten when a configuration file is loaded.*

Naming Configuration Files

Configuration files can be created or edited using a text editing tool such as Notepad. Be aware that some text editing programs may leave hidden characters in the text, and cause problems in the configuration files.

Valid configuration files are named following the MAC address of the MBU. The Aastra MBU 400 MAC address is shown on the back label of the MBU base unit, and can be determined through the status display on each registered handset through the + (volume up) side button.

<mac_address>.cfg

Example: The Aastra MBU 400 with the MAC address 00-08-7b-07-48-33 (from the handset status display) or 00087b074833 (from the box) requires a configuration file named 00087b074833.cfg.

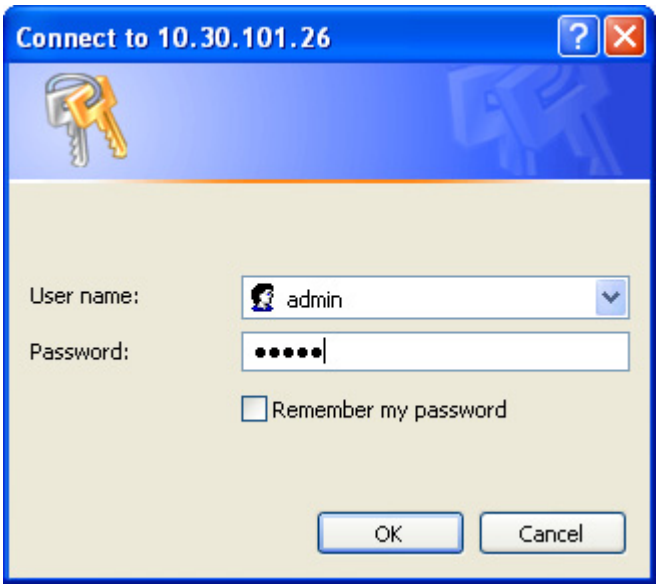
Viewing the Active Configuration File

The complete configuration file can be viewed through the Aastra Web UI for the MBU 400, provided the default web menu settings have not been changed. To determine the IP address of your MBU 400 see Finding the MBU 400 IP Address on page 18.

To view the configuration file from the Aastra Web UI do the following.

1. Open your web browser and enter the MBU's IP address (in dotted decimal format) into the address field, and press Enter.

   The Login window displays.

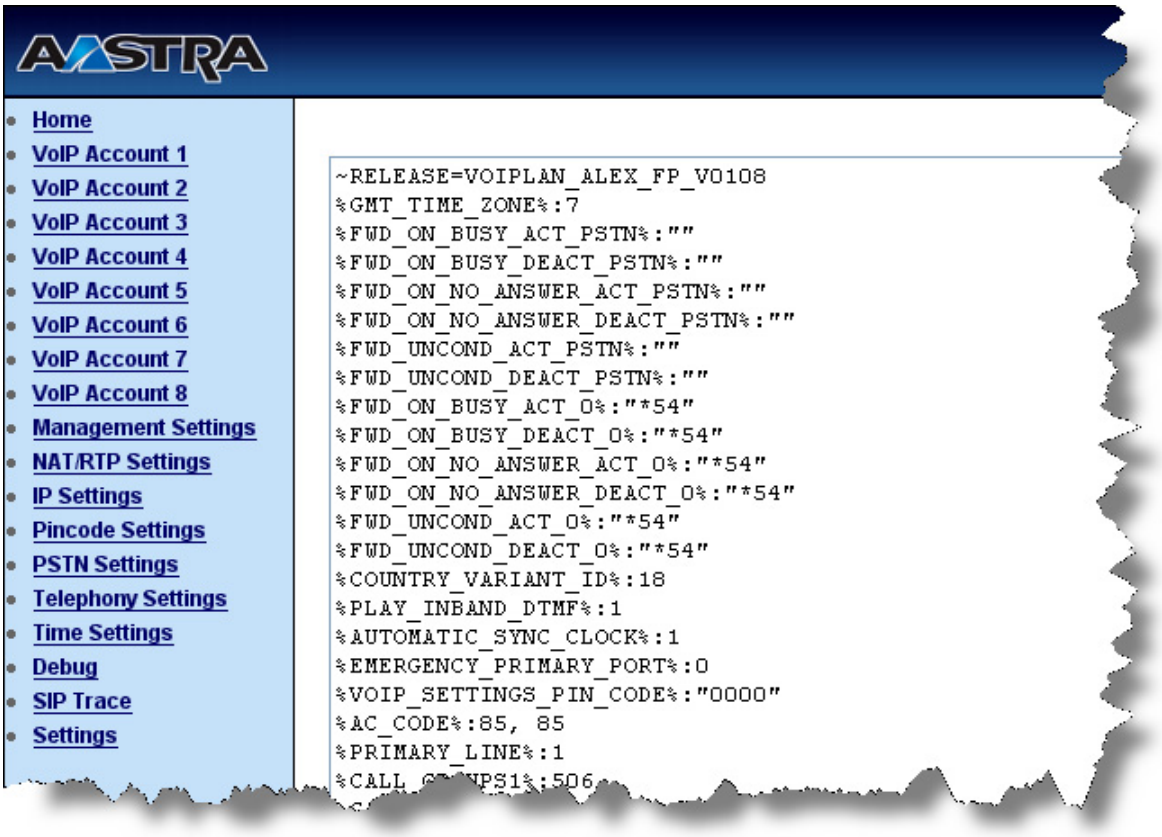


2. Enter your user name and password and click OK.

   *Note: For an administrator, the default user name is "**admin**" and the password is "**22222**". The username and password can be changed through the configuration file parameters.*

3. Click **Settings** on the left menu.

The Settings Page opens, showing the complete configuration parameter settings. Use the scroll bars to view the file.



4. To logout at any time, close the browser window.

Configuring the Network

IP configuration

The Aastra MBU 400 gateway can be configured to obtain its IP address via DHCP or to use a static IP address. In addition to including the IP configuration in the configuration file, the IP settings can be changed from the handset menu (`Settings>Internet settings`) or from the Aastra Web UI IP Settings page (Configuring IP Settings on page 29).

The IP configuration parameters set through any of these methods can be viewed in the complete configuration file, and are listed in the following table.

Parameter	Values	Description
NETWORK_WAN_SETTINGS_IP	0.0.0.0 (default)	IP address - static IP mode
NETWORK_WAN_SETTINGS_SUBNET_MASK	255.255.0.0 (default)	Subnet mask - static IP mode
NETWORK_WAN_SETTINGS_GATEWAY	0.0.0.0 (default)	Default gateway - static IP mode
NETWORK_WAN_SETTINGS_DNS1	0.0.0.0 (default)	Primary DNS - static IP mode

Parameter (Continued)	Values (Continued)	Description (Continued)
NETWORK_WAN_SETTINGS_DNS1	0.0.0.0 (default)	Secondary DNS - static IP mode
NETWORK_WAN_SETTINGS_DHCP	1 (default)	IP mode dynamic=1, static = 0

Configuration file example:

%NETWORK_WAN_SETTINGS_IP%:0x00000000

%NETWORK_WAN_SETTINGS_SUBNET_MASK%:0xFFFF0000

%NETWORK_WAN_SETTINGS_GATEWAY%:0x00000000

%NETWORK_WAN_SETTINGS_DNS1%:0x00000000

%NETWORK_WAN_SETTINGS_DNS2%:0x00000000

%NETWORK_WAN_SETTINGS_DHCP%:1

File transfer protocol

Configuration file and firmware files can be downloaded from TFTP or HTTP servers. The transfer protocol can be changed from the Aastra Web UI as well as the configuration file. (For details on changing protocol type on the Aastra Web UI, see Changing Management Settings on page 26.)

Parameter	Values	Description
MANAGEMENT_TRANSFER_PROTOCOL	0: TFTP 1: HTTP (Default)	Selects which protocol to use for firmware and configuration file downloads.

DHCP

The Aastra MBU 400 can be provisioned automatically using DHCP. When configured, the DHCP option 66 returns the IP address or a DNS string of a TFTP server. The Aastra MBU 400 uses this DHCP feature for retrieving the address of the configuration server. Even though DHCP specifications refer to the TFTP, the Aastra MBU 400 will use the retrieved address for HTTP as well if transport is configured for HTTP (HTTP is the default method).

In order to use DHCP to retrieve a configuration server address, the following parameters needs to be configured. These parameters can be configured using the Aastra 420d handset, or a configuration file on the boot server.

Parameter	Possible values	Description
NETWORK_DHCP_CLIENT_BOOT_SERVER	0-3	0:Option 66 1:Custom 2:Static 3:Custom + Option 66(default)
NETWORK_DHCP_CLIENT_BOOT_SERVER_OPTION	154-255	When the boot server parameter is set to Custom, this parameter specifies the DHCP option number in which the phone will look for its boot server (default = 160)

Parameter (Continued)	Possible values	Description (Continued)
NETWORK_DHCP_CLIENT_BOOT_SERVER_OPTION_DATATYPE	0-1	0: IP Address 1:String(default)
NETWORK_DHCP_CLIENT_TIMEOUT	3 (default)	Wait time when requesting a DHCP address from the DHCP server.

VLAN tagging

By specifying a VLAN ID, frames are confined to that virtual network. VLAN tagging is disabled by setting the ID to zero. The priority level of the frames can be set with the user priority parameter, where seven gives the frames top priority. The parameters can be configured using the handset menu or a configuration file on the boot server

Parameter	Possible values	Description
NETWORK_VLAN_ID	0-4094	Specifies which VLAN the frame belongs to (default = 0)
NETWORK_VLAN_USER_PRIORITY	0-7	Specifies the priority level of the frame (default = 0)

Configuring SIP Server and Accounts

SIP server and SIP accounts

The SIP server domain and proxy address can be configured from the handset menu using `Settings>VoIP settings>Accounts`. Up to 8 different servers can be configured individually in this manner, or through the Web UI or configuration file.

Parameter	Values	Description
SRV_0_SIP_UA_DATA_DOMAIN	String (max 32 characters)	This parameter is used after the @ as registration server. If no proxy address is defined, this also defines the server e.g. SIP REGISTERs are sent to.
SRV_0_SIP_UA_DATA_PROXY_ADDR	String (max 32 characters)	When defined all SIP packets are sent to this address.
SUBSCR_0_SIP_UA_DATA_SIP_NAME	String (max 36 characters)	The part before domain name as in sip:<sip user name>@aastra.com
SUBSCR_0_UA_DATA_DISP_NAME	String (max 20 characters)	Name displayed for called party.
SUBSCR_0_SIP_UA_DATA_SIP_NAME_ALIAS	String (max 13 characters)	Account alias, presented to the user in the handset menus.
SUBSCR_0_UA_DATA_AUTH_NAME	String (max 36 characters)	Usually the same as SIP user name, supplied by SIP provider.
SUBSCR_0_UA_DATA_AUTH_PASS	String (max 36 characters)	Password supplied from SIP provider.

Configuration file example:

%SRV_0_SIP_UA_DATA_DOMAIN%:"proxy.goip.dk"

%SRV_0_SIP_UA_DATA_PROXY_ADDR%:"proxy.goip.dk"

%SUBSCR_0_SIP_UA_DATA_SIP_NAME%:"96322300"

%SUBSCR_0_UA_DATA_DISP_NAME%:"96322300"

%SUBSCR_0_SIP_UA_DATA_SIP_NAME_ALIAS%:"96322300"

%SUBSCR_0_UA_DATA_AUTH_NAME%:"96322300"

%SUBSCR_0_UA_DATA_AUTH_PASS%:"1234"

The Aastra Web UI gives access to the following settings not available through handset menus:

Parameter	Values	Description
SRV_0_SIP_URI_DOMAIN_CONFIG	0 (default)	This parameter specifies how a destination URI of the format SIP:<user>@<domain> for an outgoing call must be specified with respect to the <domain> part. Possible values are: 0: If application omits <domain> the value from the Domain parameter will be added. 1: Application must specify full URI. 2: Doesn't matter what application defines, the <domain> will be replaced by Domain parameter
SRV_0_SIP_UA_DATA_SERVER_PORT	5060 (default)	Defines the listening port of the external proxy-server / registration-server port.
SRV_0_SIP_UA_DATA_SERVER_TYPE	0 (default)	Specifies the type of server. Allowed values are (bitfield): 1 : Voice server (bin: 00000001) 2 : EMS (bin: 00000010) 4 : Infopush server (bin: 00000100)
SRV_0_SIP_UA_DATA_SERVER_IS_LOCAL	0 (default)	Indicates whether the SIP server is remote or local. 0: No 1: Yes
SRV_0_SIP_UA_DATA_REREG_TIME	3600 (default)	Specifies the time between re-registration at reg-server. Time in seconds.
SRV_0_SIP_UA_DATA_PROXY_PORT	5060 (default)	Defines the listening port of the external proxy-server / registration-server port.
SRV_0_DTMF_SIGNALLING	0 (default)	Specifies how to transmit DTMF signalling. 0: In-band generation 1: SIP-Info 2: RTP Named Event (RFC2833).
SRV_0_SIP_UA_CODEC_PRIORITY	1, 0, 2, 4, 0xFF (default)	PCMU 20ms (0), PCMA 20ms (1), iLBC 20ms (2), iLBC 30ms (3), G729AB (4) It is not possible to select both iLBC 20ms and iLBC 30ms in the same priority list. Unused entries must be 0xFF (255).
SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NAME	String (max 40 characters)	Voice Mailbox uri like sip:alice@vmail.example.com

Parameter (Continued)	Values (Continued)	Description (Continued)
SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NUMBER	String (max 22 characters)	Voice Mailbox number Sip address/ phone number used when listening to messages
CODEC_SILENCE_SUPRESSION	0,1 [Disable,Enable]	Landline silence supression for G729 CODECs. (default=1)

Configuration file example:

%SRV_0_SIP_UA_DATA_DOMAIN%:"proxy.goip.dk "

%SRV_0_SIP_URI_DOMAIN_CONFIG%:0

%SRV_0_SIP_UA_DATA_SERVER_PORT%:5060

%SRV_0_SIP_UA_DATA_SERVER_TYPE%:0

%SRV_0_SIP_UA_DATA_SERVER_IS_LOCAL%:1

%SRV_0_SIP_UA_DATA_REREG_TIME%:3600

%SRV_0_SIP_UA_DATA_PROXY_ADDR%:"proxy.goip.dk "

%SRV_0_SIP_UA_DATA_PROXY_PORT%:5060

%SRV_0_DTMF_SIGNALLING%:0

%SRV_0_SIP_UA_CODEC_PRIORITY%:1,0,2,4,255

%SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

%SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""

STUN, RPORT, SIP port settings

STUN mode, RPORT, RTP port and SIP port can be configured from the Aastra Web UI NAT/RTP Settings page, or from the handset menu using `Settings>Internet settings>NAT provisioning>Manual`

Note: *The popup shown when NAT provisioning fails will not be displayed when the* `Internet settings` *menu is pincode protected.*

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Parameter	Values	Description
SIP_STUN_ENABLE	1 (default)	Defines whether Network Address Translators should be detected and bypassed by means of STUN. 1 = enabled (default), 0 = disabled
SIP_RPORT_ENABLE	0 (default)	Defines whether 'rport' should be used in sip messages. 1 = enabled, 0 = disabled (default)
NETWORK_STUN_SERVER	String (max 32 characters)	Name of STUN Server
SIP_STUN_BINDTIME_GUARD	80 (default)	If stun is enabled this value specifies in seconds how often the system will guard the NAT bindings. Guard for NAT bindings helps the system to react properly if e.g. the NAT device has been reset. If this value is zero, no guarding will be made.

Parameter (Continued)	Values (Continued)	Description (Continued)
SIP_STUN_BINDTIME_DETERMINE	1 (default)	If stun is enabled and SIP_STUN_BINDTIME_GUARD is defined setting this parameter to TRUE forces the system to automatically determine the duration of NAT bindings in the system. In this case the SIP_STUN_BINDTIME_GUARD parameter defines the initial test duration.
SIP_STUN_KEEP_ALIVE_TIME	90 (default)	If stun is enabled SIP_STUN_KEEP_ALIVE_TIME defines in seconds how often keep-alives are sent in order to keep NAT bindings. If SIP_STUN_BINDTIME_DETERMINE is set, SIP_STUN_KEEP_ALIVE_TIME will be overruled and keep-alives will be sent with a frequency of half of determined bindtime
SIP_SIP_PORT	5060 (default)	Local SIP port. Port used for first UA instance. Succeeding UAs will get succeeding ports.
SIP_RTP_PORT	5004 (default)	First port used for RTP traffic.
SIP_RTP_PORT_RANGE	20 (default)	Number of available RTP ports
SIP_RTP_PRIORITY	0 (default)	Priority of RTP traffic based on the IP layer ToS byte. See RFC 1349 for details. Notice "cost bit" is not supported Bit 7..5 defines precedence. Bit 4..2 defines Type of Service. Bit 1..0 are ignored. Setting all three of bit 4..2 will be ignored
SIP_SIP_PRIORITY	0 (default)	Priority of SIP call control signalling traffic based on the IP layer ToS byte. See RFC 1349 for details. Notice "cost bit" is not supported Bit 7..5 defines precedence. Bit 4..2 defines Type of Service. Bit 1..0 are ignored. Setting all three of bit 4..2 will be ignored

Configuration file example:

%SIP_STUN_ENABLE%:0

%SIP_RPORT_ENABLE%:1

%NETWORK_STUN_SERVER%:"stun01.sipphone.com"

%SIP_STUN_BINDTIME_GUARD%:80

%SIP_STUN_BINDTIME_DETERMINE%:0

%SIP_STUN_KEEP_ALIVE_TIME%:90

%SIP_SIP_PORT%:5060

%SIP_RTP_PORT%:5004

%SIP_RTP_PORT_RANGE%:20

%SIP_RTP_PRIORITY%:0

%SIP_SIP_PRIORITY%:0

The firmware update process can be initiated from the handset, by sending a SIP notify with a check-sync event to the gateway, or by scheduling a firmware update.

Handset initiated firmware updates

A firmware update can be initiated from the handset using Settings >System settings>Firmware update. In the firmware update menu select the desired firmware version and language. Use the right and left navigation keys to switch between the Simple and Advanced pages.

Note: *The popup in idle mode announcing new firmware will not be displayed when the System settings menu is pincode protected.*

Automatic indication of new firmware

By sending a SIP notify with event check-sync to the management SIP UA the gateway will update to the newest software available in the firmware update path on the firmware update server.

The following configuration is needed for firmware update.

Parameter	Possible values	Description
FWU_TFTP_SERVER_PATH	String (max 31 characters)	Firmware update server path in which to look for firmware update files. The path may contain multiple directories. The path must start with a slash and must end with a slash. Backslashes are not allowed.
NETWORK_FWU_SERVER	String (max 31 characters)	DNS name or IP address of the server that contains firmware update files.
MANAGEMENT_TRANSFER_PROTOCOL	0: TFTP 1: HTTP (Default)	Selects which protocol to use for firmware download and configuration file download.
REQUIRED_FIRMWARE_VERSION	(default is current version number)	Indicates the required firmware verions for the Aastra MBU 400 system.

Initiating firmware update by schedule

By default the Aastra MBU 400 system searches for a new firmware once every 24 hours (with a random time-offset). If new firmware is found, the handset will prompt the user for a system update. Firmware updates can be scheduled on the Aastra MBU 400 gateway in the following ways.

- Define a time [HH:MM] for the MBU to search for an update. This will cause the system to search for new firmware update every day at the specified time.
- Define a polling period; this will cause the MBU to search for new software every after each specified time interval (or polling period), and if new software is found to update the system.

The following configuration parameters are used for scheduled firmware updates.

Parameter	Possible values	Description
FWU_POLLING_ENABLE	0,1 [DISABLE, ENABLE]	Enables or disables scheduled of firmware update.
FWU_POLLING_MODE	0,1 [ABS, REL]	0 (ABS) means that firmware update uses the absolute time, 1 (REL) means that firmware update uses a relative time.
FWU_POLLING_PERIOD	Unit is in sec	Used in REL mode. Number of seconds after boot that the MBU 400 gateway will search for new software.
FWU_POLLING_TIME_HH	0-23 [Hour]	Used in ABS mode. Hour for searching for new software.
FWU_POLLING_TIME_MM	0-59 [Min]	Used in ABS mode. Minute for searching for new software.

Firmware update error codes

A number of errors can occur when initiating a firmware update or while firmware update is in progress.

Error Code	Description
Code 0: No problems	Indicates everything is working as specified.
Code 1: Wrong parameter	Indicates the firmware update application cannot access the selected software version (The selected software is not present in the dir list).
Code 2: Network not available	Indicates the phone is experiencing some network problem. This can be due to an unplugged Ethernet cable,or a HTTP/1.1 response code presented to the user as a network error.
Code 3: VOIP_FWU_STATUS_UNKNOWN	Indicates the firmware file is not found on the firmware update server (HTTP/1.1 404).
Code 4: Firmware files too big	Indicates the firmware update file is too big
Code 5: Timeout waiting for file	Indicates the server is busy and cannot process the get request within a reasonable time.
Code 6: Server not specified	Indicates the firmware update server is not specified.
Code 7: VOIP_FWU_STATUS_UNSPECIFIED_ERROR	Indicates one of several miscellaneous errors such as wrong format for the downloaded firmware update file.
Code 8: Illegal use of the Firmware updates API	Indicates an abuse of the firmware update API.
Code 9 Syntax error found in the DirFile	Indicates a syntax error in the DirFile. (The DirFile contains all information needed for a firmware update including code size, link date, languages and so on.)
Code 10: Unknown format of DirFile	Indicates the downloaded DirFile is of an unknown format. This could indicate that the MBU 400 is downloading firmware from the wrong folder on the firmware update server.

Error Code (Continued)	Description (Continued)
Code 11: Server name lookup failed	Indicates the DNS server cannot determine the IP address for the provided firmware update server.
Code 12: Authentication failed	Indicates the HTTP request for the DirFile or firmware files failed with a HTTP/1.1 401 response code. This indicates that either the username or password is incorrect.

Line Configuration

The Aastra MBU 400 system can be used with a landline (PSTN), both VoIP and PSTN, or exclusively with VoIP call capabilities. Configuration parameters enable and disable each call type. For landlines, disabling the call type removes most handset menu references to landlines.

Note: *The administrator must remove the landline from all handset call groups and make sure that the emergency line is set to a VoIP line in order to remove all references to the landline from the handset menus*

Parameter	Values	Description
COUNTRY_VARIANT_ID	0,1,..19	Configures the MBU for compatibility with country specific PSTN settings. Valid values are: 19 (Australia) 14 (Belgique) 9 (Danmark) 0 (Deutschland) 1 (Eastern European) 5 (Ellás) 8 (España) 2 (France) 6 (Ireland) 3 (Italia) 4 (Nederland) 17 (Norge) 13 (Portugal) 12 (Schweiz) 10 (Suomi) 7 (Sverige) 11 (Turkiye) 16 (United Kingdom) 18 (US **default value**) 15 (Österreich)
PSTN_VOICE_MAIL_NUMBER	"" (default is blank)	The number accessing voice mail for the landline (PSTN).
ENABLE_VOIP	0,1 [DISABLE, ENABLE]	Enables or disables the landline (PSTN) (default = 1)
ENABLE_PSTN	0,1 [DISABLE, ENABLE]	Enables or disables the landline (PSTN) (default = 1)

Handset Configuration

Handsets can be customized with options such as the display name and do not disturb setting. The phonebooks used by all handsets (the Call Log and Contacts List) can be set as private, or shared between all handsets registered to the same MBU..

Parameter	Values	Description
COMMON_PHONEBOOK	0,1 [Private, Common]	Makes the Call Log and Contacts List private for each handset, or sharded vetween all handsets. (default=0)
JOIN_CALLS_ALLOWED	0,1 [DISABLE, ENABLE]	Enables or disables the join calls options allowing a handset to join an active call on another handset. (default =0)
HANDSET_1_NAME	"Handset 1"	The name displayed on the handset. Default is Handset 1, Handset 2,..Handset 8.
HANDSET_1_CW	0,1 [DISABLE, ENABLE]	Enables or disables call waiting on the handset. (default =1)
HANDSET_1_DND	0,1 [DISABLE, ENABLE]	Emables or disables DO Not Disturb (DND) on the handset. (default =0)

Call handling

Each handset on the system can be assigned to various call groups for inbound calls, a preferred VoIP line for outbound calls and a primary line (VoIP or landline) for outbound calls. Call configurations settings can be customized from the handset using `Settings>Telephony settings>Call Groups`.

Call groups can also be assigned from the Aastra Web UI Call Groups page, or specified in the configuration file.

Parameter	Values	Description
CALL_GROUPS1	3 (default = Landline and VoIP line 1)	CallGroups1 defines which lines handset 1 will subscribe to receive incoming calls from: Bit 0: Landline Bit 1: VoIP line 1 …. Bit 8: VoIP line 8 Bit 9-15: reserved.
USER_VOIP_LINE_PP1	1 (default = VoIP line 1)	Preferred VoIP line for handset 1. Possible values: line 1-8. Defines which SIP account the handset will make outgoing VoIP calls on.
USER_PRIMARY_LINE_PP1	1 (default = VoIP)	Preferred line for outbound calls for handset 1. 0 = PSTN, 1 = VoIP Defines which line the green hook button will initiate calls on.
FWD_ON_BUSY_ACT_PSTN FWD_ON_BUSY_ACT_0 ... FWD_ON_BUSY_ACT_7	"" (default is blank)	Activates call forwarding when the line is busy for PSTN, SIP Account 1,...SIP Account 8.

Parameter (Continued)	Values (Continued)	Description (Continued)
FWD_ON_BUSY_DEACT_PSTN FWD_ON_BUSY_DEACT_0 ... FWD_ON_BUSY_DEACT_7	"" (default is blank)	Deactivates call forwarding when the line is busy for PSTN, SIP Account 1,...SIP Account 8.
FWD_ON_NO_ANSWER_ACT_PSTN FWD_ON_NO_ANSWER_ACT_0 ... FWD_ON_NO_ANSWER_ACT_7	"" (default is blank)	Activates call forwarding when there is no answer for PSTN, SIP Account 1,...SIP Account 8.
FWD_ON_NO_ANSWER_DEACT_PSTN FWD_ON_NO_ANSWER_DEACT_0 ... FWD_ON_NO_ANSWER_DEACT_7	"" (default is blank)	Deactivates call forwarding when there is no answer for PSTN, SIP Account 1,...SIP Account 8.
FWD_ON_UNCOND_ACT_PSTN FWD_ON_UNCOND_ACT_0 ... FWD_ON_UNCOND_ACT_7	"" (default is blank)	Activates call forwarding regardless of phone condition for PSTN, SIP Account 1,...SIP Account 8.
FWD_ON_UNCOND_DEACT_PSTN FWD_ON_UNCOND_DEACT_0 ... FWD_ON_UNCOND_DEACT_7	"" (default is blank)	Deactivates call forwarding regardless of phone condition for PSTN, SIP Account 1,...SIP Account 8.

Configuration file example:

%CALL_GROUPS1%:3

%CALL_GROUPS2%:3

…

%CALL_GROUPS8%:3

%USER_VOIP_LINE_PP1%:1

%USER_VOIP_LINE_PP2%:2

…

%USER_VOIP_LINE_PP8%:8

%USER_PRIMARY_LINE_PP1%:1

%USER_PRIMARY_LINE_PP2%:1

…

%USER_PRIMARY_LINE_PP8%:1

Setting Base Unit Access Codes

The access code used to identify the base unit (and stop handsets from registering to other base units) must be set both on the base unit and each handset. Setting the base unit access code can be done through the configuration parameter AC_CODE. The

four-digit access code is formatted as two hexadecimal numbers, separated by a comma. The first two digits correspond to the first number, and the last two digits to the second number. Some examples of AC_CODE values follow.

Access Code	Hexadecimal AC_CODE Value
0000	0,0
0001	0,1
0010	0,16
1111	17,17
1222	18,34
1314	19,20
3344	51,68
5555	85,85
6066	96,102
7077	112,119
8088	128,136
9999	153,153

Note: *Changing the AC Code (access code on the Web UI) will not change the access code on handsets. Handset access codes must be changed individually. Change the access code on each handset using* Settings>System Settings>Access Code>Handset.

Protecting Handset Menus

The configuration parameter VOIP_SETTINGS_PIN_CODE sets the pincode for the Aastra MBU 400 system, whether or not the pincode is in use. The default value is "0000".

This setting is used to add pincode protection to the following handset menus:

- VoIP settings
- Internet settings menu
- System settings menu
- Telephony Settings>VoIP line
- Telephony Settings>Call groups

Pin protection can be enabled and disabled individually using the configuration parameter PINCODE_PROTECTED_SETTINGS, which is a bit mask field.

Bit	Setting
0 (LSB)	VoipSettings
1	VoipLine
2	CallGroups
3	SystemSettings
4	InternetSettings
5	Reserved

Bit	Setting (Continued)
6	Reserved
7 (MSB)	Reserved

Pincode protection is enabled by writing 1 and is disabled by writing 0 in the corresponding bit field. The values in the three most significant bits are reserved for future use (currently these values are ignored). The default value is 0x00, disabling pincode protection on all settings.

Note: *The popup in idle mode announcing new firmware will not be displayed when the* `System settings` *menu is pincode protected.*

Note: *The popup shown when NAT provisioning fails will not be displayed when the* `Internet settings` *menu is pincode protected.*

Administering Registrations

Handset registrations can be administered by assigning a specific handset to a specific handset ID. This feature is useful when configuration of features such as call groups and outgoing line accounts is different for each handset. Without IPEI matching between handsets and account, handsets may register to different accounts when one handset is removed from the system, or may swap accounts when registering after a reset.

Handset IDs are also known as IPEIs, or International Portable Equipment Identities, and provide a unique identifier for each physical handset unit.

IPEI adminitration uses the following parameters:

Parameter	Possible values	Description
DECT_SUBS_MATCH_IPEI	0,1 [DISABLE, ENABLE]	Registration administration feature.
DECT_SUBS_1	<IPEI>	IPEI value for Handset no. 1
…	…	…
DECT_SUBS_8		IPEI value for Handset no. 8

<IPEI> can be defined as:

- "a text string of the octal representation of the IPEI, eg: %DECT_SUBS_1%:"023140003610"

or

- "a comma separated 5 bytes hex number, eg: %DECT_SUBS_1%: 0x00,0x99,0x80,0x04,0xA2

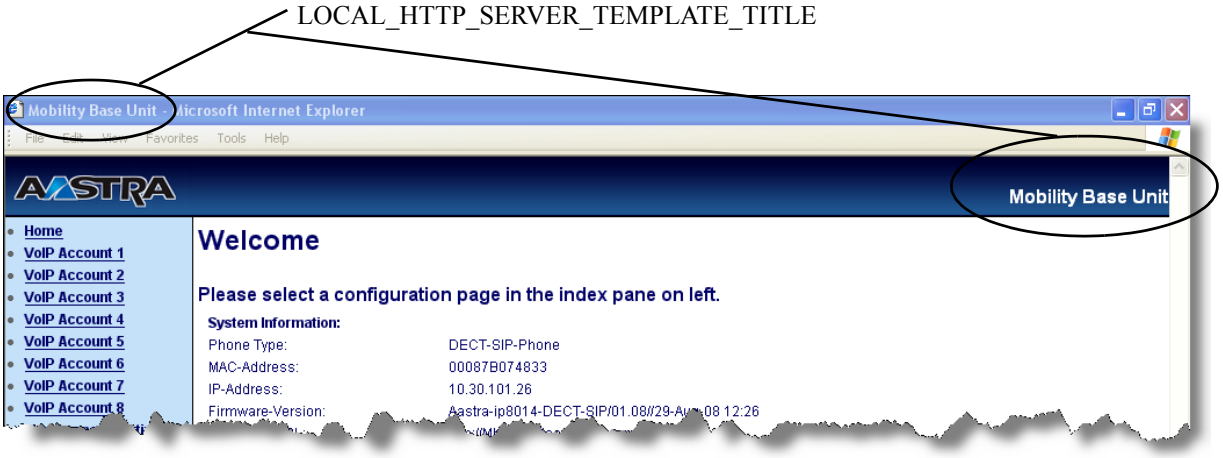
The IPEI can be retrieved from the handset menu using `Settings>System settings>Handset settings>Handset ID`. On selected product variants it is also printed on the handset label and on the product box. The IPEI also appears on the handset system status page, accessed through pressing the + (volume up) key.

Aastra Web UI customization

The Aastra Web UI can be customized using configuration parameters associated with the title or login credentials. Subpages may be individually disabled, resulting in a modified Web UI menu.

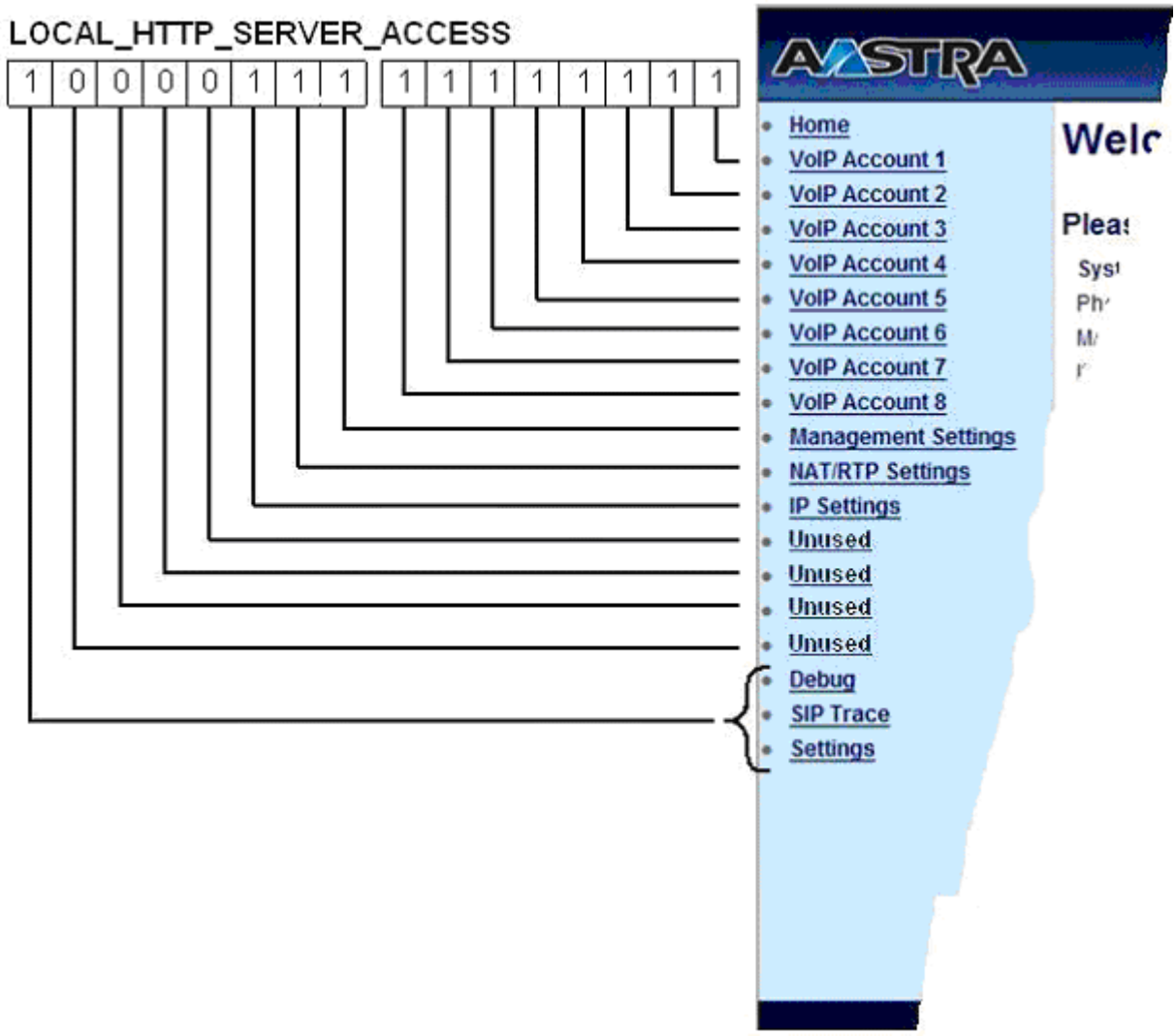
The following parameters are used to configure access to the Aastra Web UI:

Parameter	Possible values	Description
LOCAL_HTTP_SERVER_TEMPLATE_TITLE	String (max 35 characters)	String defining the "headline" and title in the top of the browser, on the internal webserver page as illustrated below.
LOCAL_HTTP_SERVER_AUTH_NAME	String (max 35 characters) default "**admin**"	String defining authorization name, used for login on the internal webserver.
LOCAL_HTTP_SERVER_AUTH_PASS	String (max 35 characters) default "**2222**"	String defining authorization password, used for login on the local web-interface.
LOCAL_HTTP_SERVER_ACCESS	0-65535 Default: **34815** = 1000011111111111b	Bit-field describing which pages(1-16) are visible on the local web-interface. LSB configures the first link (VoIP Account 1). See LOCAL_HTTP_SERVER_ACCESS on page 55 for an example.



LOCAL_HTTP_SERVER_ACCESS

The configuration parameter LOCAL_HTTP_SERVER_ACCESS is a bit-field describing which pages (from 1-16) are visible on the Aastra Web UI. The least significant bit configures the first link (VoIP Account 1). An illustrated example follows.



Using a Time Server

The time settings configuration options allow the Aastra MBU 400 system time to be set by an external time server, with a set refresh rate and local timezone. Daylight savings time options allow you to set automatic annual time changes, or turn daylight savings time on and off manually.

Parameter	Possible values	Description
GMT_TIME_ZONE	0,1,..34	Local time zone. See the table below for timezone options.

Parameter (Continued)	Possible values	Description (Continued)
NETWORK_SNTP_SERVER	"" (default is blank)	The IP address or domain name of a time server.
NETWORK_SNTP_SERVER_UPDATE_TIME	15 (default value)	Time interval in seconds between updates from time server.

The configuration parameter GMT_TIME_ZONE allows you to select your local timezone from the following options..

GMT_TIME_ZONE Value	Time Zone	Location
34	**GMT+13**	
33	**GMT+12**	
32	**GMT+11**	
31	**GMT+10**	Australian Eastern Standard Time (AEST) *Sydney*
30	**GMT+9:30**	Australia Central Standard Time (ACST) *Darwin; Adelaide*
29	**GMT+9**	Japan Standard Time (JST) *Tokyo*
28	**GMT+8**	Australian Western Standard Time (AWST) China Coast Time (CCT) *Perth; Beijing*
27	**GMT+7**	
26	**GMT+6:30**	
25	**GMT+6**	
24	**GMT+5:45**	
23	**GMT+5:30**	
22	**GMT+5**	
21	**GMT+4:30**	
20	**GMT+4**	
19	**GMT+3:30**	
18	**GMT+3**	Bagdad Time (BT) *Moscow*
17	**GMT+2**	Eastern European Time (EET) *Cairo*
16	**GMT+1**	Central European Time (CET) *Paris; Stockholm; Vienna*
15	**GMT**	Greenwich Mean Time (GMT) *London*
14	**GMT-1**	
13	**GMT-2**	
12	**GMT-2:30**	
11	**GMT-3**	
10	**GMT-3:30**	
9	**GMT-4**	Atlantic Standard Time (AST)

GMT_TIME_ZONE Value	Time Zone (Continued)	Location (Continued)
8	**GMT-4:30**	
7	**GMT-5**	Eastern Standard Time (EST) *New York; Washington DC; Ottawa; Toronto*
6	**GMT-6**	Central Standard Time (CST) *Mexico City*
5	**GMT-7**	Mountain Standard Time (MST) *Denver; Phoenix*
4	**GMT-8**	Pacific Standard Time (PST) *Los Angeles; Vancouver*
3	**GMT-9**	
2	**GMT-10**	
1	**GMT-11**	
0	**GMT-12**	

Adjusting DST (Daylight Saving Time)

DST adjustments can be handled manually or automatically. If manual configuration is chosen the user can change the setting from the handset menus, while an automatic configuration adjusts DST on the dates specified in the Web UI or configuration file. Automatic handling of DST allows flexible definition of the DST start and end time which is then applied on the chosen days and times.

Default values will enable automatic DST for North America as indicated in the following table.

Parameter	Possible values	Description
DST_ENABLE	0,1,2 [DST OFF, DST ON, DST Automatic]	Enables or disables the DST and automatic DST (default = 2)
DST_FIXED_DAY_ENABLE	0,1	0: Use Month, DayOfWeek, LastInMonth 1: Use Fixed day. (default = 0)
DST_START_MONTH	1..12	DST start month. (default=3, March)
DST_START_DATE	1..31	DST start date. Not used if FixedDayEnable is set to FALSE (default=1)
DST_START_TIME	0…23	DST start time. (Default=2)
DST_START_DAY_OF_WEEK	1..7 (1=Sunday)	(Default=1)
DST_START_WDAY_LAST_IN_MONTH	0,1,2,3	0: Start day of week first in month. 1: Start day of week last in month. 2: Start day of week second first in month. 3: Start day of week second last in month. (Default=2)
DST_STOP_MONTH	1..12	DST start month. (default=11, November)

Parameter (Continued)	Possible values (Continued)	Description (Continued)
DST_STOP_DATE	1..31	DST start date. Not used if FixedDayEnable is set to FALSE (default=1)
DST_STOP_TIME	0…23	DST start time. (Default=2)
DST_STOP_DAY_OF_WEEK	1..7 (1=Sunday)	(Default = 1)
DST_STOP_WDAY_LAST_IN_MONTH	0,1,2,3	0: Stop day of week first in month. 1: Stop day of week last in month 2: Start day of week second first in month. 3: Start day of week second last in month. (Default=0)

Configuration file example:

European (CET) configuration for DST start last Sunday in March, and DST end on last Sunday in October.

```
%DST_ENABLE%:2
%DST_FIXED_DAY_ENABLE%:00                    // Disable
%DST_START_MONTH%:3                          // March
%DST_START_DATE%:1                           // Dummy value
%DST_START_TIME%:01                          // 02.00
%DST_START_DAY_OF_WEEK%:1                    // Sunday
%DST_START_WDAY_LAST_IN_MONTH%:1             // start on LAST Sunday.
%DST_STOP_MONTH%:10                          // October
%DST_STOP_DATE%:2                            // Dummy value
%DST_STOP_TIME%:02                           // 02.00
%DST_STOP_DAY_OF_WEEK%:1                      // Sunday
%DST_STOP_WDAY_LAST_IN_MONTH%:1              // Stop on LAST Sunday.
```

Logging

The gateway logs information continuously to an internal log buffer. This log can be viewed using the internal Aastra Web UI, or the gateway can be configured to automatically upload log files to the boot server.

The configuration parameter VOIP_LOG_AUTO_UPLOAD can be used to control automatic uploading of log files. Log files are named <MAC-addr>_<MMDDHHMMSS>(b).log. The first log file is marked with a 'b' indicating that it is a boot log, and the time in the filename is given in GMT regardless of the timezone setting.

If using TFTP, the boot server must contain a directory named 'log' in the root folder, whereas using HTTP, the MANAGEMENT_UPLOAD_SCRIPT parameter (indicating the configuration file directory) is used to configure a script to handle file uploads.

Possible values for VOIP_LOG_AUTO_UPLOAD are given in the following table.

VOIP_LOG_AUTO_UPLOAD	Description
0	Automatic upload is disabled. (default)
1	Only upload the boot log
2	Continuously upload log files.

Sample Configuration File

The following configuration file is an example of a fully functional configuration for the MBU 400, including the registration of multiple handsets.

```
//-----------Network Settings------------
%SIP_RPORT_ENABLE%:1                                  //A way around NAT
%SIP_STUN_ENABLE%:0                                   //0-disable, 1-enable stun services
%NETWORK_STUN_SERVER%:"stun01.sipphone.com"           //STUN Server
%SIP_STUN_BINDTIME_GUARD%:80
%SIP_STUN_BINDTIME_DETERMINE%:0
%SIP_STUN_KEEP_ALIVE_TIME%:90


//------------Network Time----------------
%NETWORK_SNTP_SERVER%:"ptbtime1.ptb.de"               //NTP Server
%NETWORK_SNTP_SERVER_UPDATE_TIME%:255                 //SNTP Update in seconds
%GMT_TIME_ZONE%:1


//--------Provisioning Server------------
%MANAGEMENT_TRANSFER_PROTOCOL%:0                      //0-TFTP, 1-HTTP
%NETWORK_TFTP_SERVER%:"config.companyname.com"         // Configuration Server IP or FQDN
%NETWORK_FWU_SERVER%: "update.companyname.com"        // Firmware update server IP
                                                      //or FQDN
%FWU_TFTP_SERVER_PATH%:"Updates/Alex-sip8014/"        //subdir to find firmware updates
%VOIP_LOG_AUTO_UPLOAD%:0                              //0-no uploading
                                                      //1-upload bootlog only
                                                      //2-upload everything


//------------SIP Server 0---------------
%SRV_0_SIP_UA_DATA_SERVER_PORT%:5060
%SRV_0_SIP_UA_DATA_DOMAIN%:"proxy.goip.dk"
%SRV_0_SIP_UA_DATA_PROXY_ADDR%:"proxy.goip.dk"
%SRV_0_SIP_UA_DATA_SERVER_IS_LOCAL%:0                 //0-not local
                                                      //1-local to determine NAT settings
%SRV_0_SIP_UA_DATA_REREG_TIME%:3600
%SRV_0_SIP_URI_DOMAIN_CONFIG%:0
%SRV_0_SIP_UA_CODEC_PRIORITY%:0,1,3,4,0xFF
%SRV_0_DTMF_SIGNALLING%:2
%SRV_0_SIP_UA_DATA_SERVER_TYPE%:1                     //1-SIP, 2-mgmt server, 4-infopush
```

```
// ------------- Registration 1 -------------------
%SUBSCR_0_SIP_UA_DATA_SIP_NAME%:"36976091"                  // insert SIP username here.
%SUBSCR_0_UA_DATA_DISP_NAME%:"36976091"
%SUBSCR_0_UA_DATA_AUTH_NAME%:"36976091"
%SUBSCR_0_UA_DATA_AUTH_PASS%:"tAO8bEUMWYeT"
%SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:"8000"  //Mailbox number
%SUBSCR_0_SIP_UA_DATA_SIP_NAME_ALIAS%:"36976091"    //Alias name for Phone UI
%SUBSCR_0_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------- Registration 2 -------------------
%SUBSCR_1_SIP_UA_DATA_SIP_NAME%:""                  //SIP address
%SUBSCR_1_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""      //Mailbox number
%SUBSCR_1_UA_DATA_DISP_NAME%:""                     //Display name for Caller ID
%SUBSCR_1_UA_DATA_AUTH_NAME%:""                     //Auth User ID
%SUBSCR_1_UA_DATA_AUTH_PASS%:""                     //Auth password
%SUBSCR_1_SIP_UA_DATA_SIP_NAME_ALIAS%:""            //Alias name for Phone UI
%SUBSCR_1_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------- Registration 3 -------------------
%SUBSCR_2_SIP_UA_DATA_SIP_NAME%:""                  //SIP address
%SUBSCR_2_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""      //Mailbox number
%SUBSCR_2_UA_DATA_DISP_NAME%:""                     //Display name for Caller ID
%SUBSCR_2_UA_DATA_AUTH_NAME%:""                     //Auth User ID
%SUBSCR_2_UA_DATA_AUTH_PASS%:""                     //Auth password
%SUBSCR_2_SIP_UA_DATA_SIP_NAME_ALIAS%:""            //Alias name for Phone UI
%SUBSCR_2_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------- Registration 4 -------------------
%SUBSCR_3_SIP_UA_DATA_SIP_NAME%:""                  //SIP address
%SUBSCR_3_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""      //Mailbox number
%SUBSCR_3_UA_DATA_DISP_NAME%:""                     //Display name for Caller ID
%SUBSCR_3_UA_DATA_AUTH_NAME%:""                     //Auth User ID
%SUBSCR_3_UA_DATA_AUTH_PASS%:""                     //Auth password
%SUBSCR_3_SIP_UA_DATA_SIP_NAME_ALIAS%:""            //Alias name for Phone UI
%SUBSCR_3_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""
```

```
// ------------ Registration 5 -------------------
%SUBSCR_4_SIP_UA_DATA_SIP_NAME%:""                    //SIP address
%SUBSCR_4_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""        //Mailbox number
%SUBSCR_4_UA_DATA_DISP_NAME%:""                       //Display name for Caller ID
%SUBSCR_4_UA_DATA_AUTH_NAME%:""                       //Auth User ID
%SUBSCR_4_UA_DATA_AUTH_PASS%:""                       //Auth password
%SUBSCR_4_SIP_UA_DATA_SIP_NAME_ALIAS%:""              //Alias name for Phone UI
%SUBSCR_4_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------ Registration 6 -------------------
%SUBSCR_5_SIP_UA_DATA_SIP_NAME%:""                    //SIP address
%SUBSCR_5_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""        //Mailbox number
%SUBSCR_5_UA_DATA_DISP_NAME%:""                       //Display name for Caller ID
%SUBSCR_5_UA_DATA_AUTH_NAME%:""                       //Auth User ID
%SUBSCR_5_UA_DATA_AUTH_PASS%:""                       //Auth password
%SUBSCR_5_SIP_UA_DATA_SIP_NAME_ALIAS%:""              //Alias name for Phone UI
%SUBSCR_5_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------ Registration 7 -------------------
%SUBSCR_6_SIP_UA_DATA_SIP_NAME%:""                    //SIP address
%SUBSCR_6_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""        //Mailbox number
%SUBSCR_6_UA_DATA_DISP_NAME%:""                       //Display name for Caller ID
%SUBSCR_6_UA_DATA_AUTH_NAME%:""                       //Auth User ID
%SUBSCR_6_UA_DATA_AUTH_PASS%:""                       //Auth password
%SUBSCR_6_SIP_UA_DATA_SIP_NAME_ALIAS%:""              //Alias name for Phone UI
%SUBSCR_6_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""

// ------------ Registration 8 -------------------
%SUBSCR_7_SIP_UA_DATA_SIP_NAME%:""                    //SIP address
%SUBSCR_7_SIP_UA_DATA_VOICE_MAILBOX_NUMBER%:""        //Mailbox number
%SUBSCR_7_UA_DATA_DISP_NAME%:""                       //Display name for Caller ID
%SUBSCR_7_UA_DATA_AUTH_NAME%:""                       //Auth User ID
%SUBSCR_7_UA_DATA_AUTH_PASS%:""                       //Auth password
%SUBSCR_7_SIP_UA_DATA_SIP_NAME_ALIAS%:""              //Alias name for Phone UI
%SUBSCR_7_SIP_UA_DATA_VOICE_MAILBOX_NAME%:""
```

```
// ----------Emergency Primary Line----------
 %EMERGENCY_PRIMARY_PORT%:1                    //0-PST, 1-VOIP1.... 8-VOIP8

END_OF_FILE
```

Troubleshooting

The following is a list of solutions to the most common issues that you may experience when you install and use the MBU 400. Most of the problems you can easily solve yourself, whereas others require that you contact your service provider. To view the most recently updated troubleshooting information, go to www.aastratelecom.com.

Issue	Causes	Solution
The handset keeps repeating the checking step of the handset update.	When you launch the upgrade process the first time, the handset update may loop.	First ensure that the handset update has been completed (to 100%) at least once. Then reset the MBU 400 by pressing the **RESET** button on the side of the base unit.
The handset display is black.	Handset is in power saving mode.	Press any key.
	Batteries are drained.	Charge the batteries.
	Power is not turned on.	Check that the batteries are inserted with the plus and minus ends facing the correct way. Press and hold the red key .
The handset does not charge.	The charger is not powered.	Check that the power cord is connected properly to the charger, and that power is turned on.
	Batteries are not inserted correctly.	Check that the batteries are inserted with the plus and minus ends facing the correct way.
The handset registration failed, and the status indicator on the display is black.	Handset is out of range of the MBU.	Move the handset closer to the MBU, place it in the charger, and reset the MBU.
The display reads, "Searching for Gateway" or "Registering to Gateway" without registering successfully.	Handset is out of range of the MBU.	Move the handset closer to the MBU.
	MBU is not powered.	Plug MBU into a power outlet. (If possible, a continuous power outlet.)
	Access codes don't match.	Change the handset access code to match the gateway access code. (If you don't know the gateway access code, it can be reset by your System Administrator.) Once the access codes match, reset the gateway to initiate handset registration mode. **NOTE:** A factory default reset will set the gateway access code to 0000, but will not change the handset access code.
The POWER indicator on the MBU is not lit.	MBU is not powered.	Check that the MBU power cord is connected properly, and that the adapter is plugged into a power outlet. (If possible, a continuous power outlet.)

Issue (Continued)	Causes (Continued)	Solution (Continued)
The I-NET indicator on the MBU is not lit.	The Ethernet cable is not connected.	Check that the Ethernet cable between the WAN port on the MBU and the LAN port on your modem or router is connected properly.
	The router or modem is not powered.	Turn on the power to the modem or router.
	The MBU cannot retrieve an IP address.	In Internet settings, check that the IP mode corresponds to the IP mode of your Internet connection.
There is no audio when I make Internet calls.	The router blocks audio.	Use port forwarding. Check your router's user manual to see how to configure port forwarding.
I cannot make landline calls.	The landline cable is not connected.	Check that the landline cable between the Line port on the MBU and the telephone wall outlet is connected properly.
	The landline is out of order.	Contact your landline provider.
I cannot receive landline calls.	The country setting is wrong.	Check that you have chosen the country that you are in. Open the System settings menu, choose Country selection, and then choose the country that you are in.
I cannot make Internet calls, the VoIP indicator on the MBU is not lit, and the right status indicator in the upper left corner of the display is black.	The configuration of the phone is not complete.	Check that you have configured your phone properly.
	The MBU has not been reset after you saved the configuration.	Reset the MBU and allow the MBU 2 minutes to log in at your Internet Telephony Service Provider.
	The router uses port forwarding.	Check that you have configured your router so that it always assigns the same IP address to your phone's MAC address when using port forwarding. Otherwise incoming traffic is probably not forwarded to your phone. For more information, check your router's manual.
	The router blocks Internet telephony.	Use port forwarding. The default SIP port is 5060, and the default RTP port is 5004. Ensure that your router always assigns the same IP address to your phone when using port forwarding. For more information, check your router's manual.
	The router firmware needs updating.	Check your router's user manual to see how to update the firmware.
When I make Internet calls, the sound quality is poor.	There is too much simultaneous data traffic on your broadband connection.	a) Reduce the amount of traffic on your broadband connection. b) Sign up for a Quality of Service agreement with your broadband provider. c) Order a connection with higher speed from your broadband provider.
	Your Internet Telephony Service Provider's Quality of Service is based on a "best efforts" rather than a guaranteed voice priority method.	Contact your Internet Telephony Service Provider regarding ensured voice prioritization across the network.

Issue (Continued)	Causes (Continued)	Solution (Continued)
I cannot make Internet calls, but it worked yesterday.	The MBU is not logged in at the Internet Telephony Service Provider.	Check that all cables are connected properly, and check that power is turned on, and then reset the MBU.
	The router is turned off.	Turn on the router.
	The SIP server is down.	Contact your Internet Telephony Service Provider.
	The Internet connection is down.	Contact your broadband provider.
How do I determine the software version of my Handset?	I need to know the software version currently installed on my MBU 400.	a) Press Volume-Up button on the left side of the registered 420d handset to display the system status. b) Scroll down to see the Version SW: xx.xx field.

Limited Warranty

Aastra Telecom warrants this product against defects and malfunctions during a one (1) year period from the date of original purchase. If there is a defect or malfunction, Aastra Telecom shall, at its option, and as the exclusive remedy, either repair or replace the MBU 400 at no charge, if returned within the warranty period.

If replacement parts are used in making repairs, these parts may be refurbished, or may contain refurbished materials. If it is necessary to replace the MBU 400, it may be replaced with a refurbished MBU 400 of the same design and color. If it should become necessary to repair or replace a defective or malfunctioning MBU 400 under this warranty, the provisions of this warranty shall apply to the repaired or replaced MBU 400 until the expiration of ninety (90) days from the date of pick up, or the date of shipment to you, of the repaired or replacement set, or until the end of the original warranty period, whichever is later. Proof of the original purchase date is to be provided with all MBU 400s returned for warranty repairs.

Exclusions

Aastra Telecom does not warrant its MBU 400 to be compatible with the equipment of any particular telephone company. This warranty does not extend to damage to products resulting from improper installation or operation, alteration, accident, neglect, abuse, misuse, fire or natural causes such as storms or floods, after the MBU 400 is in your possession.

Aastra Telecom shall not be liable for any incidental or consequential damages, including, but not limited to, loss, damage or expense directly or indirectly arising from the customers use of or inability to use this MBU 400, either separately or in combination with other equipment. This paragraph, however, shall not apply to consequential damages for injury to the person in the case of MBU 400s used or bought for use primarily for personal, family or household purposes.

This warranty sets forth the entire liability and obligations of Aastra Telecom with respect to breach of warranty, and the warranties set forth or limited herein are the sole warranties and are in lieu of all other warranties, expressed or implied, including warranties or fitness for particular purpose and merchantability.

Warranty Repair Services

Should the set fail during the warranty period;

In North America, please call 1-800-574-1611 for further information.

Outside North America, contact your sales representative for return instructions.

You will be responsible for shipping charges, if any. When you return this MBU 400 for warranty service, you must present proof of purchase.

After Warranty Service

Aastra Telecom offers ongoing repair and support for this product. This service provides repair or replacement of your Aastra Telecom product, at Aastra Telecom's option, for a fixed charge. You are responsible for all shipping charges. For further information and shipping instructions;

In North America, contact our service information number: 1-800-574-1611.

Outside America, contact your sales representative.

Note: *Repairs to this product may be made only by the manufacturer and its authorized agents, or by others who are legally authorized. This restriction applies during and after the warranty period. Unauthorized repair will void the warranty.*

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